

DISTRIBUTION & WAREHOUSING

FORMERLY
TRANSFER & STORAGE

Vol. XIX, No. 3

U. P. C. Building, 239 W. 39th St.
New York, N. Y.

March, 1920

Selden Trucks Highly Praised by Transfer and Storage Companies

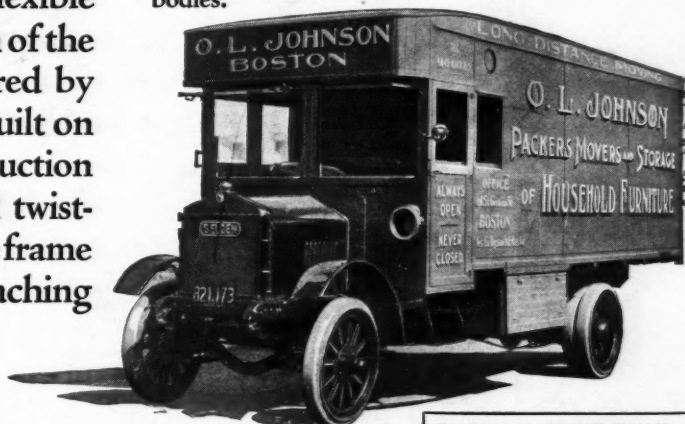
Transfer and Storage companies who have equipped with Selden Trucks praise them highly for their performances.

Selden "In-Built Quality," flexible construction is the foundation of the highly efficient service rendered by Selden Trucks. They are built on a principle of flexible construction by which all road shocks and twisting strains are absorbed in the frame and thus prevented from reaching the more vital mechanism.

The Selden furniture body shown here has met with

widespread approval. Its generous proportions provide loading space for full capacity loads.

Ask the Selden dealer in your locality to tell you more about Selden Trucks and Selden furniture bodies.



The Magazine "TRUCK TRANSPORTATION" will be sent free to all interested upon receipt of request to Dept. TS
SELDEN TRUCK CORPORATION
Rochester, N. Y.

Ship by Truck—SELDEN Truck

1½, 2½, 3½, 5 Ton Models—all WORM Drive

SELDEN TRUCK CORPORATION, Rochester, N. Y., U. S. A.

Selden Motor Trucks

GARFORD



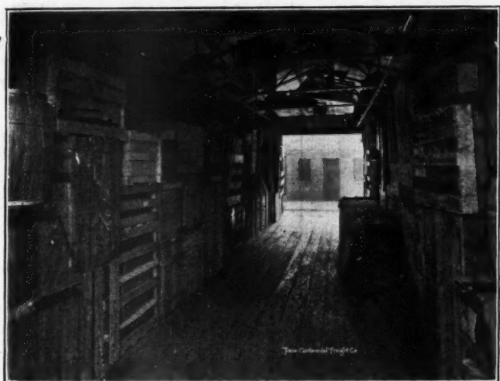
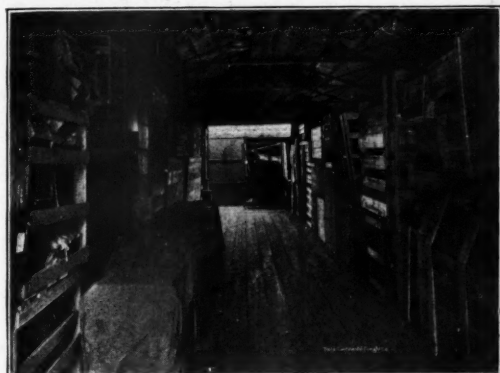
Garfords give *Low Cost Ton-Mile* because they serve economically for long hours and keep on doing it.

Garford

Lima, Ohio

A GARFORD FOR EVERY PURPOSE— $1\frac{1}{4}$ TO 6 TON CAPACITY

TRUCKS



Stick Another Pin in the Map

STICK another pin in your wall map. That's right; push it in at Cleveland.

Ten pins there now—New York, Chicago, Boston, Buffalo, Philadelphia, Cincinnati, San Francisco, Los Angeles, Seattle, **and now Cleveland**—ten points of saving for you men engaged in the Distribution and Warehousing business. Ten offices for the

TRANS-CONTINENTAL FREIGHT CO.

We didn't open that last office, gentlemen—you did it. Yes, you shippers—knowing from experience the saving, speed and satisfaction our consolidated freight service insures—by constantly increasing your calls on it, are responsible for that name you know so well painted on the door of our latest office.

We are grateful to you, gentlemen, for your appreciation of our efforts to serve during the last two decades, and with an enlarged organization and greater facilities we are ready to prove our gratitude to you in terms of *money saved on your forwarding*—make us prove it, gentlemen.

Household Goods, Automobiles, Machinery, Pianos, Toys consolidated for domestic shipment, and everything for Export, that's what our ten offices are devoted to, that and YOUR INTERESTS.

TRANS-CONTINENTAL FREIGHT CO.

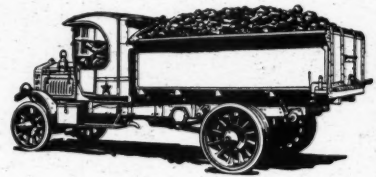
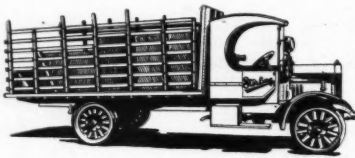


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General Office, 203 Dearborn St., Chicago

Old South Bldg., Boston.
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Hippodrome Bldg., Cleveland.
Monadnock Bldg., San Francisco.
Van Nuys Bldg., Los Angeles.
Alaska Bldg., Seattle.

Write the Nearest Office



NO matter what your business may be, if you have real hauling to do, there's a Sterling of the right capacity, speed and body equipment to handle it efficiently and economically.

**"Efficiency
on
Wheels"**

Sterling MOTOR TRUCKS

are built in 1½, 2½, 3½ and 5-ton capacities, Worm-Driven, and in 5 and 7½-ton capacities, Chain-Driven.

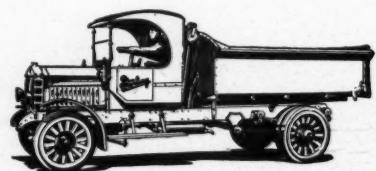
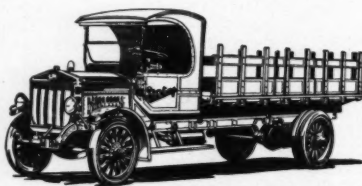
The 1½ and 2½-ton Sterlings, when equipped with Pneumatic Tires, will carry loads anywhere that a passenger car may be driven.

The 5-ton Chain-Driven Sterling—"The Road-BUILDER"—and the 7½-ton Chain-Driven Super-Sterling—"The Inter-City Freightier"—meet in an exceptional way the requirements of those who demand dependable service under extremely trying conditions.

Better Trucks than the Sterlings are not built anywhere.

Sterling Motor Truck Company, Milwaukee

Builders of Motor Trucks exclusively for twelve years.



DISTRIBUTION & WAREHOUSING

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TRANSFER & STORAGE

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Chicago.....446 Marquette Bldg.
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Boston.....640 Old South Bldg.
Philadelphia.....272 Drexel Bldg.
Baltimore.....412 Garrett Bldg.
Pittsburgh.....437 Oliver Bldg.
Detroit.....527 Ford Bldg.

St. Louis.....1537 Boatmen's Bank Bldg.
New Orleans.....203 Marine Bank Bldg.
San Francisco.....64 Pine Street
Los Angeles.....517 Central Bldg.
Seattle.....402 Arctic Bldg.



For Love or Money

A Doctor recently moved to Los Angeles. He left his goods in storage in his old home town, thinking that he would sell them and buy furniture in California.

We quote a sentence in a letter which we have just received from the Doctor:

"Am writing you with reference to a car to ship our furniture out here. You can't buy furniture here for love or money. It is scarcer than diamonds."

Which reminds us of our old slogan:

Ship and Save

or

Sell and Sacrifice

Truer now than ever.

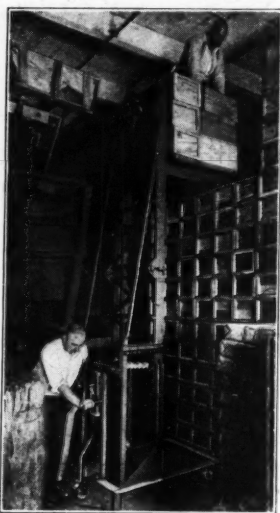
Of course the way to ship is via

JUDSON

For information write nearest office

**Judson Freight
Forwarding Co.**

Just Two Men



*Write for Bulletin C-38.
We will be glad to send it
to you and it entails no ob-
ligation on your part.*

and a Brown-Portable "Hand-I-lifT" can do the work of three to six men—with a saving of fifty to seventy-five per cent of your profitless-labor cost!

Not only that—the "Hand-I-lifT" piles right to the top, makes waste-space up near the ceiling that men can't reach—pay.

It unloads easily from any of the three sides of the platform—it isn't necessary to turn it around.

The hinged upright frame allows the "Hand-I-lifT" to pass through doorways or under low obstructions—smooth-rolling wheels make the trucking of heavy loads easy—and special feet make sliding from under the load absolutely impossible.

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HAND-I-LIFT
"LOWERS THE COST OF LIFTING"

Brown Portable Conveying Machinery Co.

10 S. La Salle St.
Chicago

30 Church St.
New York City



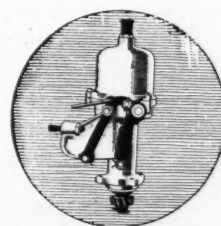
Here is a Good Looking Truck

When you see a spirited, trim limbed horse come prancing down the street with neck arched and tail and glossy mane floating in the breeze, you know inherently that it is a thoroughbred.

Perfection speaks for itself. The same is true of perfection in a manufactured product. One glance at the trim, clean cut lines of the Clydesdale and you recognize that same thoroughbred look.

The sturdy appearance; the absence of surplus weight; the balance; the look of brutish power; make you realize immediately that the truck will stand up under the most trying service.

That Clydesdales do stand up is a matter of history. And that they are particularly well adapted for the Transfer and Storage Business is borne out by the experience of Riverside Storage Co., Detroit; Radlein's Motor Express, Chicago; Union Express & Freight Co., New York, and other Clydesdale users.



No Other Truck Has It
"The Driver Under the Hood"

One to Five Tons Net Load

THE CLYDESDALE MOTOR TRUCK COMPANY, CLYDE, OHIO

CLYDESDALE

Another
FEDERAL

"Shorten the Miles to Market—Build Better Roads"



The "Leviathan," a three and one half ton Federal, operated by the Cathcart Moving and Storage Co., Atlanta, Ga.

"The Leviathan—Another Federal"

B. F. Cathcart, of Atlanta, Ga., has added "Another Federal" to the fleet of Federal trucks he operates in Atlanta, Georgia. Because of its size and completeness of appointment and equipment he has christened it the "Leviathan."

Like its predecessor the "Lusitania," the "Leviathan" is equipped with electric lights, a water cooler, front and side doors which are locked with steel bolts, a drivers' seat accommodating six and their luggage, including locker for six lunch boxes. The double walls of this

van are reinforced with steel and highly finished.

The service Mr. Cathcart has received from his Federals is well expressed in a recent letter from him:

"It is now exactly five years since we ordered our first Federal—a one and one half tonner. It was only 29 days before our order went in for *another Federal* and we have continued to order from time to time until we are now using seven, from one and one half tons to three and one half tons."

FEDERAL MOTOR TRUCK COMPANY,
94 FEDERAL STREET DETROIT, MICH.

FEDERAL

One to Five Ton Capacities

DISTRIBUTION & WAREHOUSING

ENTERED AS SECOND CLASS MAT-
TER, JANUARY 29, 1916, AT THE POST

FORMERLY
TRANSFER & STORAGE

OFFICE AT NEW YORK, NEW YORK,
UNDER THE ACT OF MARCH 3, 1879.

PUBLISHED MONTHLY

Volume XIX

NEW YORK, MARCH, 1920

No. 3

TARIFF MAKING BASED ON COST ACCOUNTING

*Is Keynote of Campaign Begun by American Warehousemen's Association—A Service
Department for Traffic Managers Will Be a Feature—Study of Present
Day Property Values Considered Essential*

COST ACCOUNTING as a fundamental economic basis for making tariffs which are fair to warehousemen, just to shippers, defensible if examined by any Federal or State regulatory commission—this is the keynote of the work ahead for the American Warehousemen's Association.

The campaign is one which will be watched with interest by every manufacturer who distributes commodities through warehouses. It is of importance to shippers and their traffic and distribution managers because its consummation will probably mean readjustment of the present basis for making tariffs in warehouses.

The basis in nearly all warehouses to-day is a haphazard one, devised largely after guesswork, and is unscientific. Leaders in the warehouse industry are convinced that studious examination of cost accounting, and the application of the principles of cost finding, will eliminate this guesswork. The mission of these leaders will be to stimulate warehousemen to study cost accounting and introduce it into their storage plants.

Traffic managers will be interested to know that the Central Bureau, from which the progress of this campaign is to be directed, will establish a service department to which shippers will eventually be able to turn for authoritative information relating to tariff and general warehouse conditions in various parts of the country.

This service department will be of inestimable value as a clearing house in the co-operative rela-

tions between the storage industry and the proposed national association of traffic managers who utilize warehouses.

A step forward toward putting the cost accounting campaign in motion was taken last December at the Cincinnati convention of the American Warehousemen's Association. At that time special committees were appointed to aid in the development of the Central Bureau, which is in charge of Charles L. Criss, executive secretary of the A. W. A. The actual organization plans were laid when these committees, one representing each the general merchandise, household goods and cold storage sub-divisions of the A. W. A., conferred at Atlantic City, N. J., on February 2, 3 and 4.

The success of the campaign arranged at Atlantic City will depend to a great extent upon co-operation from members of the warehouse industry in all communities. This co-operation will be sought actively—so actively, in fact, that, to quote one of the committee members at Atlantic City, the work among warehousemen may develop into a process of "perpetual nagging for their welfare." At the start, the technical and intricate phases of cost accounting will be avoided, in pamphlets circularized by the Central Bureau; the individual warehouseman who knows nothing at all about cost finding will be approached with carefully prepared lessons through which he would gradually come to know the value of understanding all fundamentals of handling, storing, labor, overhead and other expenses. The good he will

get out of these will be measured by his own co-operation and enthusiasm.

Speakers at the Atlantic City conference emphasized the value of taking into account the advanced market values of warehouse properties, in the work of standardizing a basis for rates. How important this situation was considered to be may be judged by the fact that 1920

realty prices will be reckoned with in working out this basis. (In this connection see the boxed matter on page 9.) One of the committee members expressed opinion that this was one of the main fundamentals in preparing a basis for making equitable tariffs.

What presumably should constitute a theoretically standard warehouse—one for general merchandise, one for household goods and one for cold storage products—is to be defined by the three sub-committees in conjunction with Mr. Criss. The plan is to have authorities on warehouse engineering and public accounting prepare a working method through which warehousemen individually can estimate for themselves the present-day valuations of their plants, the expenses for this to be paid jointly by the three subdivisions. The cost of each individual estimate would then be defrayed by the warehouseman who wanted the information in connection with his own rate-making. A "fair market value on the day we are making rates" was held by several speakers to be equitable.

It was brought out that several committee members thought that storage rates should be based on the average cost of replacing the present building, allowing for obsolescence. As an illustration, a building which in 1901 cost \$326,000 to construct might to-day have a market value of \$766,000, but it might cost only between \$500,000 and \$600,000 to put up a new

building equally as good; under such circumstances, several speakers declared, the basis for making tariffs should be the replacement cost, always taking obsolescence into account.

During discussion of the probability that in time all warehouses would be regulated by State commissions, speakers placed emphasis on the distinction between fixing rates and making a basis for rates.

It was brought out that if the United States Supreme Court should decide that stock dividends were not taxable, this would enter into cost finding.

The work of placing at the disposal of individual warehousemen the cost accounting information to be collated at the Central Bureau will have the co-operation of Chester B. Carruth, actuary for the Massachusetts Storage Warehousemen's Association, and H. I. Jacobson, manager of the Port of New York Warehousemen's Bureau of Information. These two have been instrumental in the development of cost accounting systems in warehouses in their communities, and their methods are in a great measure standardized.

Much classification and handling information is already on file at the Central Bureau, and this will be supplemented by data to be prepared by Mr. Carruth and Mr. Jacobson. Forms and blanks will be agreed upon by them and submitted to Mr. Criss, and these will be sent to individual warehouse-

men in the form of lessons graduated to serve as educational steps forward in the studying of cost accounting. In addition, detailed reports on the costs of handling individual commodities, such as flour and tobacco and wool, will be prepared by Mr. Carruth and Mr. Jacobson and sent to the Central Bureau for its use. Warehousemen who adopt the lesson-

If the tentative program arranged at the Atlantic City conference is carried through successfully the

CENTRAL BUREAU of the American Warehousemen's Association WILL

1. Strongly recommend to storage executives throughout the country that they earnestly take up the matter of cost accounting in connection with the principal lines, or preferably all of the departments, of their business.
2. Urge that, where possible, such work be conducted by warehousemen collectively, through an impartial accountant or other agency employed for the purpose, or where this is not possible, such work to be conducted by the individual houses.
3. Assist the Association or the sub-division groups in engaging competent accountants or engineers to work out a standardized method for determination of the present day values of general merchandise, household goods and cold storage warehouse space.
4. Recommend that warehousemen individually utilize this method, with the counsel of local accountants, and engineers if desired, for determining the value of their plants and equipment.
5. Suggest to every warehouseman that he find out what his labor, handling, storage and other costs are, submitting this information to the Central Bureau.
6. Place itself at the service of warehousemen who wish to know how to introduce cost accounting systems into their plants.
7. Assist the general merchandise, household goods and cold storage sub-divisions to decide on what should be considered theoretically a standard warehouse for each branch of the industry, for purposes of working out a basis for tariffs.
8. Issue to warehousemen a graduated series of cost accounting lessons as part of a campaign of education designed to enable storage executives to "know your business."
9. Assemble data relating to labor saving devices and bookkeeping systems used in warehouses.
10. Compile information regarding tariff and other warehouse conditions in the various communities for the benefit of shippers.
11. Issue periodical reports showing how warehousemen in the several communities have effected economy in costs in handling and storing individual commodities.
12. Endeavor to standardize warehouse forms generally.

These are the men who attended the Atlantic City conference at which plans were laid for developing the Central Bureau of Information of the American Warehousemen's Association:

- | | |
|---|---|
| C. A. Aspinwall, Washington, D. C. (household goods). | E. W. Lewis, New York City (cold storage). |
| E. H. Bacon, Louisville (merchandise). | George S. Lovejoy, Boston, vice-president of the A. W. A. (general merchandise). |
| W. T. Bostwick, Jersey City (household goods). | O. C. Mackay, Boston (cold storage). |
| Chester B. Carruth, Boston, actuary of the Massachusetts Storage Warehousemen's Association. | A. V. Mason, Pittsburgh (cold storage). |
| W. Lee Cotter, Mansfield, Ohio (household goods). | W. B. Mason, Providence (cold storage). |
| Charles L. Criss, Pittsburgh, general secretary of the A. W. A. | D. V. Murdock, Pittsburgh (household goods). |
| M. C. Cummings, Chicago (cold storage). | John L. Nichols, Boston, chairman General Central Bureau Committee (general merchandise). |
| N. A. Emmertz, Chicago (cold storage). | Nimmo Old, Norfolk, Va. (cold storage). |
| I. C. Franklin, Washington, D. C., Specialist in Storage, Bureau of Markets, U. S. Department of Agriculture. | J. R. Shoemaker, Elmira, N. Y. (cold storage). |
| Philip Godley, Philadelphia (general merchandise). | S. G. Spear, Boston (general merchandise). |
| H. I. Jacobson, New York City, Port of New York Warehousemen's Bureau of Information. | George H. Stoddard, Boston (cold storage). |
| James F. Keenan, Pittsburgh, president of the A. W. A. (household goods). | R. H. Switzler, St. Louis (cold storage). |
| George Kittredge, Columbus, Ohio (cold storage). | D. L. Tilley, New York City (general merchandise). |
| | T. E. Witters, Baltimore (general merchandise). |
| | W. R. Wood, New York City (household goods). |

methods of finding costs on given commodities will be asked to send reports to Mr. Criss, who will pass the findings on to other warehousemen for their information. In this way an endless chain of information, constantly in motion, will be constructed, and it is hoped that in time the lethargy that exists to-day in many warehouse communities will be eradicated.

Bureau to Be a Clearing House

Meanwhile the Central Bureau will encourage the formation of local associations in all sections of the country. One has been suggested for the warehousemen in Washington, D. C., Norfolk, Baltimore, Richmond, Petersburg and neighboring cities.

The proposal to make the Central Bureau a clearing house for manufacturers who use warehouses met with general approval. Under this plan warehousemen in all territories would be requested to file their individual tariffs with Mr. Criss, together with information relating to storage conditions generally. Traffic and distribution managers would be made the beneficiaries, the Central Bureau serving as a connecting link between warehousemen and shippers.

Similarly, warehousemen in search of labor-saving devices and bookkeeping systems will in time be able to apply at the Central Bureau for information. Storage
(Continued on page 25)

Part of the work of the Central Bureau committees will be to revise the American Warehousemen's Association's 1918 standardization of basis for rates in its relation to warehouse property values.

This will be accomplished by working out new examples designed to illustrate application to a standard warehouse of the initial cost of plant, with estimated capital, fixed charges and revenue—but these examples will be based on 1920 property values, which some warehousemen estimate have increased on a scale ranging from 21 per cent in some communities to 61 per cent in others.

The following table is the one issued by the standardization committee in 1918 and was intended for merchandise warehouses only. The new estimates will include estimates for household goods and cold storage warehouses which are theoretically standard.

The estimates herein have been compiled from the best information available and are intended to represent an average.

SPECIFICATIONS

100 x 200 ft. on the ground, six (6) stories and basement high. Mill construction with three (3) fire walls, two (2) stairways, four (4) elevators, eight (8) whips, electric light and power.

Square feet inside the walls	129,358 (191.5 x 96.5)
Elevators, stairways, office and shipping room.....	6,358

Total square feet available	123,000
-----------------------------------	---------

Two (2) railroad tracks, capacity 5 cars each; platform ten (10) ft. wide.

ESTIMATED COST (APRIL, 1916)

Land:		
For buildings	20,000	
For railroad siding and platform...	7,000	
For siding connection	1,000	
	28,000 sq. ft. @ \$2.00	\$56,000.00
Construction, engineering and supervision, 129,358 sq. ft. @ \$1.50		
		194,037.00
Two (2) tracks, capacity five (5) cars each; platform ten (10) ft. wide		
		3,000.00
Equipment:		
Office and shipping department, four (4) elevators, eight (8) whips, wiring, machinery, warehouse trucks and tools	20,000.00	
Organization and charter	1,000.00	
Interest on land during construction	3,360.00	(6%)
Taxes and insurance on building during construction.....	3,880.00	(2%)
Working capital	18,723.00	
Capitalization	\$300,000.00	



No. 1—This looks like the remains of a tumbled-down house! Waste lumber? Not if the warehouseman knows about dunnage. This accumulation of scrap wood, characteristic of many a storage plant, is worth \$40 a thousand feet as dunnage. Mr. Shephard tells why!

THE USES AND ECONOMIC VALUE OF

D U N N A G E

A Story of the Government's Methods of Conserving Space in Warehouses

By

GEORGE F. SHEPHARD

(Former Assistant to the Port Storage Officer at the New York Army Base)

DUNNAGE, as defined in our dictionaries, is pieces of wood, mats, boughs or loose material of any kind, laid on the bottom of the hold for the cargo to rest upon to prevent injury by water, or stowed among sacks or other cargo to prevent their shifting and chafing. The average man can understand why a piece of wood or a stone would be placed under a wagon wheel as a shock to prevent sliding

OUT OF THE WORLD WAR COMES THIS MESSAGE TO EVERY WAREHOUSEMAN:

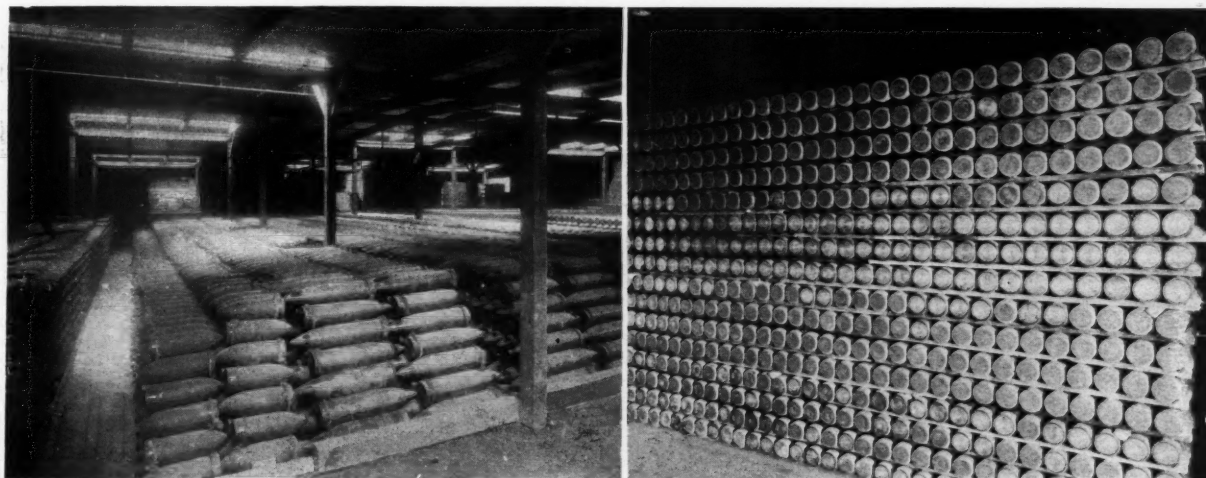
IN these days, when every effort is being made to establish a basis for making uniform rates for the storage of merchandise, there is nothing that is going to sell your proposition but service, and no one can produce that service but your organization.

ACAREFUL study, therefore, of the means of obtaining the best results is essential. Care in storing your merchandise, neatness and cleanliness in your warehouse, are absolutely necessary, and there is no better way of obtaining those results than by doing what Uncle Sam has done in his warehouses—through liberal use of dunnage.

PRODUCTIVE value increases in proportion to the valuation of your storage space.

or to relieve the strain on the wearing parts of a mechanical device, but for the average man to grasp the enormous value of this so-called scrap lumber in handling storage problems is something which is seldom found, even among warehousemen who have made their business a life study.

Dunnage, to a steamship man, is a common term and a means of revenue in his business. Much has been



No. 2 and No. 3—The waste-method and the save-method of storing shells. The first sufficed while there was more than enough room, but a more ingenious way was necessary when conditions at Army supply base warehouses became congested. Dunnage did it!

written of the dunnage used by the War Department in shipping locomotives and railroad equipment to the French Government. Thousands of bales of hay were used to block the cargo in place and to prevent shifting in transit. The use of dunnage from a marine standpoint is a big subject in itself and, therefore, we will confine this article to the use of dunnage in storing merchandise.

Much credit must be given for the development of the use of dunnage to the War Department employees who were responsible for the operations of the Army supply bases and storage depots under control of the Director of Purchase & Storage. At each of these bases we find different types of buildings which have their particular advantage, but it is a conceded fact that where land values are not prohibitive, the one-story shed type building built on a concrete foundation, covered with a corrugated iron roof and divided into sections by fire walls of hollow tile and metal fire doors, have proved the most economic from a construction and operating standpoint.

In previous articles published in this magazine we have discussed the various types of buildings and their particular advantages. In this article an attempt shall

be made to familiarize you with some of the problems which confronted the operators of these storage bases and the part that dunnage played in overcoming these obstacles. Let it be known that the operators of these storage bases, government-owned as they were, were charged with the economic operation of same—and their ability was rated by the manner in which these big units were operated. There is no more diversified classification of commodities handled by any storage concern than was handled by the War Department. As some of the accompanying photographs will show, there were many commodities handled which, in the course of ordinary business, would not be handled by a commercial concern, but the principles and the methods employed do not change, and the ingenuity and brains which developed storage of the character portrayed here will be helpful to every *business* warehouseman in the economic conduct of his business.

The argument which no doubt will be put forth by many in their attempts to batter down the advantages of the use of dunnage, as illustrated in this article, will be that the floor capacity does not permit the carrying of so great a load; that the cost of labor employed is too great, and that the average storage is of too short a term. It is true that, in the particular type of building illustrated in the accompanying photographs, a particular advantage was the almost unlimited carrying capacity of the floors. In some instances it has been figured that as much as 4000 pounds to the square foot can be stored at these plants. However, unless you are storing merchandise to the maximum capacity of your floor load, you are not getting the full value of your space. The cost of piling and stowing material as illustrated is only a small percentage of the earning capacity of every square foot of storage space made available through the practical use of dunnage. If you will figure the average term of storage of any commodity in your plant you will find that, regardless of the cost of properly stowing the material, it will prove economic in the end to take advantage of every available cubic foot of storage space.

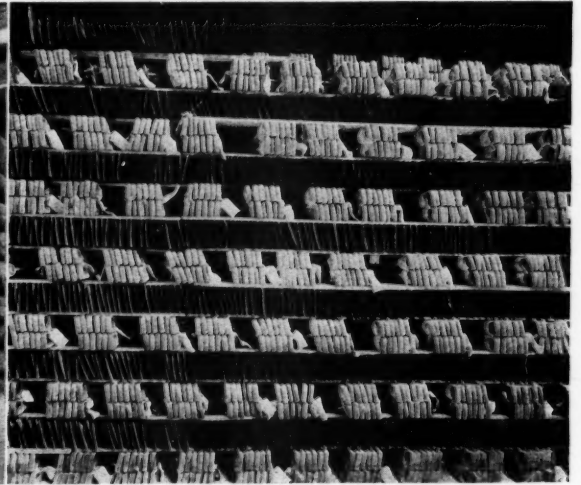
In these days of high values, have you considered the value of the space between the ceiling and the top of the average pile of merchandise stored as it is generally found? As an illustration, in the accompanying



No. 4—Sectional view of the save-method. Note dunnage between each row. Doesn't this warrant the time and labor involved?



No. 5—Baled mattresses. Not much dunnage necessary, but the manner of utilizing it conserved profit-earning space.



No. 6—Can you devise a better method of storing spades? Each unit is kept intact, easily accessible for inventory.

photograph (No. 2) we show a section of 4.7 shells stored at one of the big reserve depots operated by the War Department. There is nothing unusual about this picture to the average man because he has seen hundreds of pictures of shells stored in this way.

We find seven rows of shells piled one on top of the other and we find at the end of each row a large space that is absolute waste above the first row, by reason of the fact that the manner in which these shells are piled does not permit the free use of this space. In addition thereto, consideration must be given the uneven distribution of weight and the ever-present possibility of this pile tumbling down, owing to the lateral pressure through the center of the pile.

Now compare this method of storing shells with the method illustrated by the next photograph (No. 3). Here we find sixteen rows of shells piled in neat arrangement from the floor to the ceiling—and all of this made possible through the intelligent use of dunnage. Strips of wood about three inches wide were cut out on a rip-saw and placed between each row of shells, and on the end of each strip a cleat was toe-nailed to the strip. This acts as a stabilizer and prevents any play or shifting. In picture No. 2 all of the piling was done by hand, whereas in No. 3 a portable electric piling machine was used. Therefore, the additional labor cost was only 20 per cent more than that employed in No. 2, and the storage capacity was increased more than 100 per cent. What is 20 per cent of a labor charge compared with an increase of 100 per cent in your earning capacity?

In photograph No. 4 we see the result of our efforts in storing these shells, and we have a good illustration of how the dunnage is piled between each rows of shells.

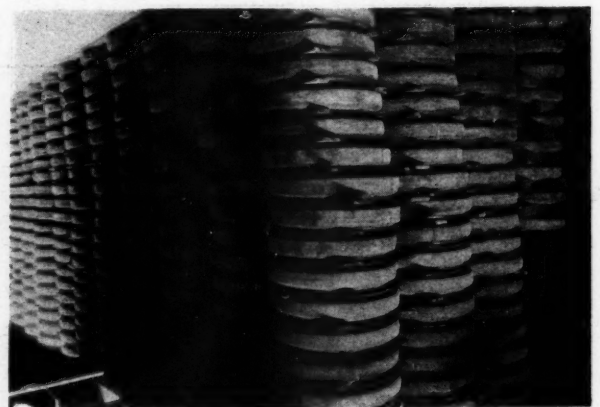
In the handling of mattresses we have a commodity which is more generally handled by merchandise warehousemen, and all who have had experience in this respect will agree with the writer that mattresses are one of the many commodities which are very difficult to handle. There is little stability to the package as a unit, with the result that it constantly creeps and will not retain any uniform position. Without the use of dunnage (see picture No. 5) it would be practically impossible to pile these mattresses more than five high, and there would not be the same degree of neatness and accuracy in piling as has been accomplished in this par-

ticular work, not to mention the fact that only 50 per cent of the available storage space was being used.

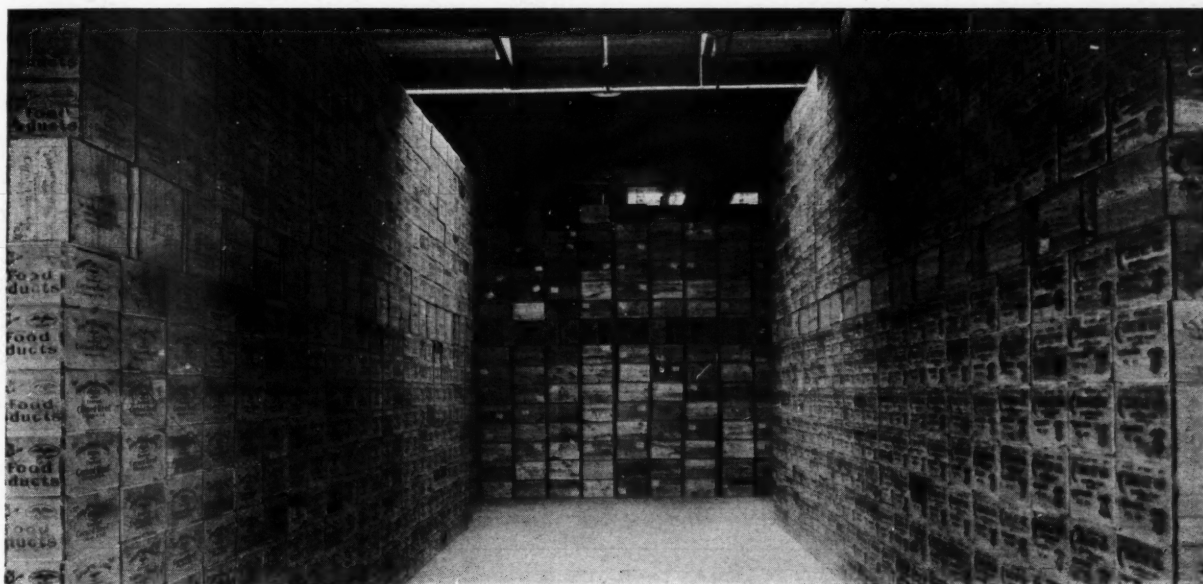
In every instance where the writer has had occasion to examine the method in which spades were stored it has been found that they were usually thrown into a heap in a bin of some warehouse without any attempt whatever to stack them properly, and where they were stacked it was found that no dunnage has been used, with the result that considerable space was lost and there was no means whatever of making a rapid inventory of the material.

As you will note in photograph No. 6, a very simple method has been employed. Lengths of four-inch strips have been placed between the bundles of spades, which are packed twelve to a bundle and the position of the spades inverted. The appearance alone justifies the amount of labor and time involved and the result has been accomplished at a cost which is not to be considered in comparison with the accessibility and convenience with which a delivery could be made or an inventory taken.

It is the exceptional case where the warehouseman is called upon to handle as many solid rubber tires as



No. 7—Solid truck tires piled twenty-one high. Dunnage averts danger of tumbling down.

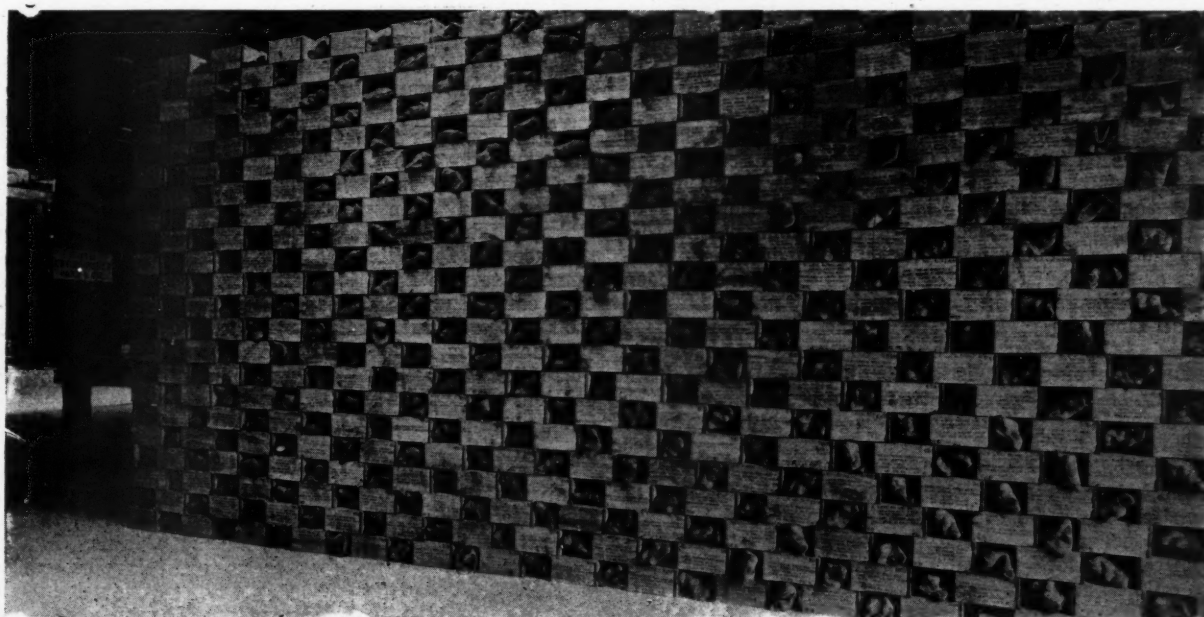


No. 8—Do you store cased goods? This is how the Government uses dunnage to pile "canned Willie" for the Army. This method is adaptable to all commercial warehouses which handle this common type of commodities

shown in photograph No. 7, but it may be that some of the manufacturers of rubber tires will learn something from this photograph and the method of storage shown therein. The application of the use of dunnage to the storage of these tires is very simple and is best told by the picture itself. Although these tires are uniform in size, it is a fact that without the use of dunnage it would be virtually impossible to store them to this extreme height. Each strip of dunnage creates a new level and stabilizes each particular pile, thereby eliminating the possibility of shifting.

What is true of the manner in which this canned corned beef has been stored, as illustrated in photograph No. 8, is equally true of any other commodity in cased goods. Although these cases are uniform in size and on the face of the pile of cases there is no evidence of the use of dunnage, it is a fact that throughout the entire pile dunnage has been used wherever found necessary to brace or stabilize any particular pile.

It will be noted that in about the center of the pile the manner in which the cases are stored has been inverted and the cases are stored on end instead of



No. 9—How Uncle Sam stores axes and axe handles economically with dunnage. The heads are packed in boxes of one dozen each and the handles are wrapped in burlap



No. 10—These kegs of nails are uniform in size—but without dunnage they could not be piled so high. The dunnage between every second row creates a new level and eliminate the possibility of collapse.

being flat. The result is the same as that produced by the use of dunnage. In the majority of warehouses operated by the War Department, the identity of every carload of merchandise is retained in the warehouse and, as a rule, when a release or withdrawal is made, the entire carload lot is withdrawn. Although this photograph does not show very distinctly the identification of the carload lots, nevertheless, by means of marks and tags each carload lot is stored as a unit and so marked as to identify it when it is withdrawn. The marks on the pile will show car number in which the commodity arrived at the depot; number of cases in the car; number of cases checked short, if any; number of cases received in damaged condition, if any; checker's name; section of warehouse in which lot is stored, and date inventoried.

Inventories Essential

In storing merchandise one of the important factors to be considered is the means of securing an accurate inventory. It is regarded highly essential by the Government that from time to time inventories be taken at the various storage bases under their control, and this mammoth task could not be accomplished with any degree of expediency unless some consideration had been given to this factor in planning the manner of storage. At all times an inventory is retained in the executive offices of the various bases, but to secure an absolutely accurate inventory it is essential that a physical inventory be taken at least three times a year, and the amount of labor and the cost involved would be enormous if it were not for the fact that in the majority of cases all commodities were stored in such a way as to permit a check being made without the physical handling of each lot. In some of the warehouses operated by the War Department the idea of retaining the identity of each carload lot has been eliminated, but the result, in the opinion of some, has not been as satisfactory.

It is the business of every good merchant in releasing commodities from storage to release first those commodities which have been in storage the longest time, thereby keeping a fresh stock in the warehouses. Of course,

there are a great many commodities where this is not of material value and no effort is made to follow out a system which will produce this result, but it is the opinion of many that the result is one to be desired and the one which will be essential if the contemplated Federal Storage Act is put into effect. By eliminating the identity of each separate carload, the cargo is stored in bulk, and when instructions are issued for the delivery of any part of the cargo, that which is most convenient to the warehouse foreman is first released.

It has also been noted that where the identity of a carload of any particular commodity was not retained, that is, the entire carload retained as a unit, it has been the custom of the average warehouseman to store all goods of a certain commodity in one section of the warehouse and all goods of another commodity in another section of the warehouse, etc.

What is the result? A large order for delivery is issued on one particular commodity, then the warehouse foreman reports that in the particular section in which this commodity is stored they are delivering a large shipment for "John Jones," and it will be impossible to make this delivery at once. The result is the failure to produce that for which the warehouseman is in business, namely, service for his customers. If the identity of each carload unit had been retained and the same commodity stored in a half-dozen different places in the warehouse by carloads, if one section was busy it is quite likely that the delivery could be made from another section without delay.

Trackless Trains

Upon completion of each Government warehouse a plan was made and the storage aisle space laid out on the floor plan. The plan was then transmitted to the floor itself by means of heavy marking paint. In the majority of these warehouses an eight-foot clearance was allowed for aisle space. This may not be considered good storage from a commercial standpoint, but in the operation of a Government warehouse, where the expeditious loading and unloading of cars was absolutely essential, practically all of the handling was done by



No. 11—A row of cans inverted serves as dunnage in piling cases of canned tomatoes

mechanical handling machinery. Virtually all cargo is delivered to the allotted storage space in the warehouse on trackless trains, and in order to permit these trains to pass one another, it has been necessary to leave these wide aisles. By means of a trackless train it has been possible to load six or eight trailers to each train, averaging from 800 to 1000 pounds per trailer. Practically all of the piling has been done by means of a portable tiering machine or portable electric conveyors.

The one and only best advertisement for any business is its organization and the plant operated by that organization. If you can influence a prospective customer to go to your plant and see for himself the manner in which you are doing business, do you conscientiously believe that this prospective customer would be justified in giving you his business, regardless of your rates? In these days when every effort is being made to establish a basis for uniform rates for the storage of merchandise, there is nothing that is going to sell your proposition but service, and no one can produce that service but your organization.

A careful study, therefore, of the means of obtaining the best results is essential. Care in storing your merchandise, neatness and cleanliness in your warehouse, are absolutely necessary, and there is no better way of obtaining these results than by doing what Uncle Sam

has done in his warehouses—through liberal use of dunnage. It takes time and costs money, but the results justify the effort, not alone from an increased earning capacity standpoint which, however, is most essential of all, but it calls forth ingenuity and effort to produce a result that will be the best. Each day presents its new problems and each warehouseman has problems of his own to solve; but do not forget, many valuable lessons can be learned from Uncle Sam, particularly in the development of the storage business.

This industry has given some of its best and most brainy men to the development of a proposition which to-day is an enormous one, and some of the methods employed there may be valuable to you in the conduct of your business. A study of these photographs will tell the story more graphically than words, and although the commodities handled by you may vary from those handled by the War Department, the principles back of it all are the same and the productive value increases in proportion to the valuation of your storage space.

From the Government's

methods of warehousing the commercial storage man can learn much of value. Mr. Shephard has other authoritative articles in preparation.

—the old way

L. T. CRUTCHER, PRESIDENT

L. T. CRUTCHER WAREHOUSE CO.

**STORAGE AND DISTRIBUTION
GENERAL WAREHOUSING**

KANSAS CITY, MO.

—the new way

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DISTRIBUTION AND WAREHOUSING

KANSAS CITY, MO.

Telling His Story in Three Words Where Five Were Once Considered Necessary

HISTORICAL SURVEY of the Development OF THE WAREHOUSE*

By

CHARLES H. MOORES

(of Moores & Dunford, Warehouse Engineers)

III.—TYPES OF WAREHOUSES

IN the early days of the business no thought was given to the warehouse other than that it be constructed with four walls and a roof and provide adequate space for the storage of any sort of commodity in whatever corner happened to be available. To-day the junk man pays more attention to the sorting and storing of his various materials than did the warehouseman of a century ago. It is, in fact, only within the last twenty-five or thirty years that competition has developed sufficiently in the warehouse business to demand the application of *business* principles. In this, as in all other lines, competition begat intensified study and investigation, and these in turn led to specialization.

Consequently we have to-day five distinct types of warehouses, namely, merchandise, household goods and furniture, implement storage and transfer, cold storage, and port and railroad terminal. All other so-called types are either combinations or modifications of these. For instance, there are the bonded warehouse, the combination warehouse and the special commodity warehouse, all of which, while fulfilling their particular requirements, are, after all, only special adaptations of one or more of the five main branches.

1 MERCHANDISE WAREHOUSE. In the first stages of its development, this oldest type of warehouse—for general merchandise—was a very crude one, both in design and construction. No thought was given to many points which to-day are fundamental considerations. Indeed, by far the greater number of them were buildings which had been discarded for other purposes but were considered good enough for warehouses. Later years have witnessed the gradual elimination of such buildings for warehouse purposes, and the introduction of principles and features in the design and construction of new houses which make them as truly distinctive as are the modern banks, hotels and office buildings.

What are the essentially distinctive features of a modern merchandise warehouse?

Were one to answer this question, completely enumerating the various factors which govern the choice of site, the size of building, the allocation of space for the different commodities to be stored in the building, and the installation of facilities for the economical handling of these commodities in and out and throughout the building; in other words, were the whole story of the design, construction, equipment and management of such a warehouse to be told, it would require an article in itself. (An interesting point in this connection—one that is often overlooked—is this:

No two of these expositions would be alike. Two warehouses may be of the same size and for the same general purpose yet be decidedly unlike except in dimension if in their interpretation proper consideration is given to those conditions, purely local, which are influencing factors.) The intent of this paper is covered by a mere reference to the fundamental requirements. It will be noted that they embody three main considerations, namely, location of building, layout of storage space and facilities for handling merchandise.

Too Little Thought to Design

One conversant with the business recognizes these as the essentials. He will be surprised, unless familiar with the situation, to learn that in the consummation of every warehouse project these basic points are not given sufficient attention. Listen! Not more than one warehouse in fifty in this country is so designed that it is possible to utilize the amount of space for storage that the dimensions of the house ought to provide; nor is it equipped with mechanical devices that permit of the efficient handling of merchandise. This statement can easily be checked. Visit your nearest warehouse and watch the teams and trucks at the loading docks waiting for an hour or more to be loaded or unloaded. Then step inside and note the

This is the concluding portion of Mr. Moores' article. The first parts, "History of the Warehouse" and "Business of the Warehouse," were published in the February issue.

Mr. Moores is preparing a series of articles on the various types of warehouses, and this will be published in *Distribution & Warehousing* during the year. The first of these articles will appear next month. See our announcement on page 39.

amount of space that, for various reasons, cannot be utilized and is therefore a burden rather than a source of revenue. The enormously increasing demand for space and better facilities is causing an exceptional boom in the construction of merchandise warehouses. The attention not only of warehousemen but also of business men at large, including financiers, is being attracted and their interest centered on the excellent investment features of such projects.

2 HOUSEHOLD GOODS AND FURNITURE WAREHOUSE. Apparently the call to war has ever been not only a call to arms for the individual but also a call to storage for his possessions. That such was the case recently hundreds of thousands can testify, and evidence tends to show that it was equally true at the time of the Civil War. For it was then that the first furniture warehouse was built, thus inaugurating as a separate industry the storing of household goods and personal effects. This house was built by one who, prior to this time, had been in the furniture-moving business. Subsequently several small houses were erected, but it was not until 1870 that one worthy of special mention appeared. It was in that year that John H. Morrell erected his famous warehouse in New York on the corner of Thirty-second Street and Fourth Avenue. This house, for those days, was a huge success, netting him, it was said, about \$40,000 per year until destroyed by fire in 1881.

To this pioneer, Morrell, belongs the credit of having established the furniture warehouse business on a sound basis. He started up again in a small way shortly after the fire, but sold out the next year to the Lincoln Warehouse Company. This company in turn occupies a prominent place in the warehousemen's hall of fame. The first fireproof furniture warehouse was erected by them in 1882-1883. In this house, for the first time, rooms were provided for private storage.

In spite of the success of this and a few other similar houses erected shortly thereafter, and notwithstanding the rapid growth of the business, it was a number of years before the public demanded and warehousemen provided buildings of this character in the principal cities.

"A Necessary Evil"

Conditions, however, have changed decidedly during the last fifteen years. It wasn't much longer ago that a warehouse was looked upon generally as a necessary evil to be patronized only at such times as misfortune necessitated the storage of one's personal effects. In the eyes of the housewife the storage of her treasured possessions was a catastrophe and often it proved to be such.

One cannot say that the conditions responsible for such a feeling are entirely eliminated now. That such conditions must be obliterated is realized by the majority of warehousemen to-day. How they are working to this end is apparent from the ever-increasing number who are providing proper facilities for the safe preservation of storage, and are performing service that guarantees the customer against loss, damage and negligence. That they are accomplishing excellent results in this direction is proved by the fact that this branch has been brought to a higher standard than any other branch of the warehouse industry.

Modern buildings have been responsible in large measure for this success. The fireproof furniture warehouse of to-day, substantial in construction, and in design attractive without and efficiently arranged within, is a welcome addition to any business street. Its features are unique. The main lobby and offices would be a credit to a first-class banking house. Adjoining the offices is a well-appointed ladies' waiting room, equipped with writing desk, tele-

phone, chairs and other conveniences. Back of the clerks' office, and in plain view of the main entrance, is a silver vault with burglar-proof doors. Conveniently situated also on this main floor are the piano room, rug vault, trunk room and cold-storage room for furs. The other floors of the building are divided into fireproof compartments of different sized rooms so that when a customer desires, his goods may be stored in a room absolutely independent of the goods of other parties. The receiving, shipping and packing department is so arranged that the handling of goods is accomplished with the least possible expense.

Eliminating Criticism

By such means has the warehouseman, with the advice and assistance of expert engineers, been able to overcome the adverse criticisms of the householder and his reluctance to patronize storage houses. Incidentally the revenue is sufficiently large to attract the attention not only of one seeking a lucrative business but also of the banker or bond house in quest of a high-grade investment.

Attractive as is the present-day household goods warehouse, it is, like everything else, susceptible to further improvement. There are at this time new developments being incorporated into permanent plans, which, it is believed, will receive the hearty approval of both the warehouseman and the public which he serves. Methods of handling and storing household goods and certain features of the building's construction will be unique, to say the least. Regardless of the height of the building, there will be no floors in it between the ceiling of the main floor and the roof. The warehouseman will be relieved of the responsibility and labor costs of six of the eight handlings now required. The customer will be assured of maximum protection against loss, damage and deterioration of his household effects.

A later article will be devoted exclusively to a description of this new type of building and an explanation of the unusual features, which are associated with it. Possibly it is stretching the bounds of a historical survey to mention this product of the future—even though near future—at all at this time.

3 IMPLEMENT STORAGE AND TRANSFER WAREHOUSE. It is interesting to note that this branch of the industry was created in response to a demand for a means to overcome difficulties which manufacturers encountered in the distribution of their products. These difficulties of the manufacturers briefly summarized were: Inadequate local facilities for carrying necessary stock to meet the demands of the trade; excessive expense involved in maintaining local branches; unreliability of sales agents to carry required stock because of lack of capital, and the unsatisfactory service rendered by the average warehouseman who was inexperienced in keeping accounts of stocks, reporting sales, etc.

It was one familiar with these conditions, Mr. James H. Grahame, formerly employed by a machinery and implement company, who founded the implement storage business, and built the first implement storage warehouse in 1882 in Detroit. The immediate success of Grahame's undertaking was responsible, no doubt, for the many transfer houses which sprang up shortly thereafter. In two years a sufficient number were in operation to warrant the organization of the Associated Transfer and Storage Companies for the purpose of systematizing the methods of operation and establishing rate schedules. There was not at that time, nor has there ever been until the present hour, sufficient emphasis placed upon a third, and what might well be most important, factor of this business, namely, the establishment of a system of credits whereby large quantities of machinery and implement parts might be con-

signed through an agency to the warehouse, and the negotiable warehouse receipt used by the sales company or agency at the bank as collateral for a loan to pay the major part of the purchase price. Thus might it be possible for the sales company to have a much larger stock on hand and to greatly increase its business on a safe basis without increased capital in the company.

Opportunities for Sales Service

To the writer's knowledge no modern, properly equipped warehouses have been erected in this country to specialize in this branch of the industry. Hundreds of cities that ought to be central distributing points lack the facilities to function as such. Furthermore, innumerable smaller cities where it might not be feasible to maintain a separate warehouse and operate exclusively in this line, afford excellent opportunities to introduce it as a special department in combination with the general merchandise warehouse.

It is prophetic of an awakening interest in an enterprise which is worthy their attention, not only as a source of revenue but as an essential civic requirement, that Chambers of Commerce, bankers and manufacturers as well as the general public are seeking more information regarding the warehouse industry in general and the implement storage and transfer branch in particular. In a farming community especially is the implement storage business of vital importance. There are certain periods of the year—the planting and harvesting seasons in particular—when any delay in receiving farm machinery or repair parts would result in a material loss to the farmer. Such loss and inconvenience would be overcome if there were, within a reasonable distance, a modern implement storage warehouse to permit his taking advantage of the facilities afforded.

4 COLD STORAGE WAREHOUSE. In tracing the history of this fourth type of warehouse—the cold-storage warehouse—one follows a development decidedly unlike that of the other branches of the industry. While theirs has been a direct growth, each as an independent business the success of which has been governed entirely by the efforts of the warehousemen, in the case of the cold-storage warehouse this growth has been in a measure dependent upon the growth and development of the cold-storage business as a whole. Here, then, we have an exceptional case of a distinct branch of the warehouse industry which is also a distinct and important branch of another—the cold-storage industry.

As has been shown to be true of the merchandise warehouse, the household goods warehouse and the implement warehouse, so it is true of the cold-storage house that its growth has been a recent and rapid one. In fact, more recent and more rapid than that of any of the others. This has been due to that inter-relationship with another or parent industry, by virtue of which the progress and success of the one has been imparted to the other.

"Time Value"

Cold storage was introduced into the meat-packing industry in 1870, thus enabling the latter to enjoy a twelve months' season instead of the three months to which it had been previously limited. The rapid growth of the cold-storage business began in 1895. The first effect of this growth was to permit of the preservation of goods in transit, thereby enlarging the market for perishable products so that fruits, fish, meat, eggs, butter, etc., could be enjoyed far from their source of production. In other words, it increased what might be termed the *place value* of the community. A second result was the establishing of a so-called *time value*, that is, permit of the accumula-

tion of perishable goods in the seasons of growth and production, and the storing of them for use in non-productive seasons. It is in connection with this "time value" that the cold-storage warehouse has fulfilled its most important function.

The enormous and continued growth of the cold-storage business is a sufficient indication of the dependence of our complex modern society upon it. Only a cursory knowledge of the business, and a casual inspection of the operation of the big cold-storage warehouses are necessary to impress one with the highly technical turn which its introduction has given to the warehouse industry. In fact, the growth of the cold-storage business has been the greatest stimulus which has been given to the warehouse industry in modern times.

5 PORT AND RAILROAD TERMINAL. The accumulation of its century of growth, the ultimate development of the warehouse, is demonstrated in the port and railroad terminal. Here we have the transition from the individual unit to the great consolidation, an expression in the warehouse industry of the ruling spirit of modern times. Here are united all branches of warehousing in a way that brings them into intimate and inseparable contact with the fields of manufacturing, merchandising and distribution. The terminal provides for the receipt of raw materials direct from the railroads or ships, the use of that material by the manufacturer on the spot or the storing of it, regardless of its nature, until such time as the merchant or manufacturer requires it for his needs. It provides, as well, for the storage and distribution of finished products. It is, in short, the centralization point of all trade.

The lack of this type of facility is felt most keenly. When the United States entered the war the Government found it easy to list the number of modern terminals in this country. There was practically one—the Bush Terminals in Brooklyn. No description or explanation is required here of an institution so widely known as this one. Why, then, are more of a similar nature not established at the gateways of the nation is a question the answer to which does not reflect credit upon the foresight of Big Business during the past decade.

In the years 1914 and 1915 the author made personal investigations of all Southern seaports, having in mind their accommodations for the handling of trade with South American, Mexican and Panama-Pacific points. He found that the existing facilities were totally inadequate to meet the requirements, were, in fact, a restraint and a detriment to the development of this trade. Although there were many good natural ports with excellent railroad facilities, no action has been taken to improve their dockage and warehouse facilities in a way to make them qualify as satisfactory ports of call.

Terminal Facilities Inadequate

For example, let us consider the city of Mobile as a logical point for a terminal warehouse. Mobile is located on Mobile Bay, thirty miles from the Gulf of Mexico. It has a water front of nearly three miles, practically unimproved. There is a straight channel to the Gulf of Mexico with a minimum width of 300 feet and a minimum depth of 29 feet. Along the water front at the dock line there is a minimum depth of 30 feet. Mobile is located, too, near the outlets of the Alabama and Warrior rivers. These are navigable for ninety miles inland, or to within eighteen miles of Birmingham, the great steel center—"The Pittsburgh of the South." In short, Mobile has the natural location for one of the best terminal developments on the Gulf of Mexico. It has a land-locked harbor of deep water; it is out of gun range of hostile ships; it is

easy of access from the sea. The iron and steel products of Birmingham are placed practically at the seaboard. Its railroad facilities are ample, consisting of five main lines of the South. Competitive freight rates by water so favor Mobile that large consignments are sent from Chicago, Detroit, Pittsburgh, Kansas City, St. Louis, Cincinnati, Cleveland, Birmingham, Chattanooga, Atlanta, Nashville, Montgomery and many other cities. It is the chief coaling station in the United States for steamships. But to-day its exports are 50 per cent greater than its imports owing to the absence of terminal facilities.

What is true of Mobile is true of all our coastal cities—East, South and West. Not all have been blessed with equal natural advantages of course; but, nevertheless, by their very existence, the fact is established that they fulfill certain qualifications as commercial ports. It is time that nature's gifts to these cities be supplemented by man's efforts. This nation cannot attain or maintain the position to which its wealth and resources rightfully entitle it in the realm of world-wide commerce and trade until necessary provision is made for the accumulation of her exports prior to shipment and the accommodation of her imports prior to distribution.

SPECIAL WAREHOUSES. Reference has been made to certain "special adaptations of one or more of the five main branches" of the warehouse industry, such as the special commodity warehouse, the combination warehouse and the bonded warehouse. As their purpose is to meet a specific requirement or a local condition no further consideration beyond mention will be given to any but the bonded warehouse.

It is not in the design or construction of the building nor in the nature of the commodity handled that the bonded warehouse differs in any way from the ordinary merchandise warehouse; but rather in the nature of service rendered. Here merchandise is received from abroad in bond and held under the jurisdiction of a United States Custom Inspector, without payment of duty, until such time as withdrawn by consignee or sold.

Receipt as Security

This procedure has two advantages. First, it makes possible the consignment and delivery of foreign goods direct to the warehouse at point of distribution, free, for the time being, of duty. This enables the importer to take advantage of through rail and water rates in carload lots and thereby save him time and money. He has the advantages of a seaport warehouse plus a saving in reduced freight to distributing point. Second, it makes it possible for the importer to present his local warehouse receipt at the bank as security for a loan covering a large per cent of the cost of his goods.

A century ago there was in vogue a so-called "credit system," under which goods were brought in by the importer and duties on them remitted until such time as sold; but this system became subject to so many flagrant abuses that it was abolished. Shortly thereafter, in the year 1828 or 1829, the system of bonded warehouses was introduced. This system has operated most satisfactorily. There is no question but that it opens up a broad field of attractive business to importers. Our increased trade with foreign markets due to the establishment of a merchant marine will necessitate, as well as make desirable, increased bonded facilities.

There is no reason why the advantages of the system cannot be enjoyed in the smaller centers of distribution as well as the larger. It is entirely feasible to incorporate a "bonded department" in the regular merchandise house. The only restrictions placed upon it are that of isolation from other sections of the warehouse and supervision over it of an authorized government official. It necessitates no

deviation from modern practice in design and construction of the warehouse, but does require slight additional expense in the installation of separate elevators and handling devices in this sealed portion of the building.

Conclusion

Our friends of the field and forest instinctively apply two warehousing principles when they gather and store food in the season of plenty for consumption during the period of nature's rest. In like manner did primitive man provide for his self-preservation. Each succeeding age has witnessed the application of new principles to the warehousing industry and further elaboration of those already adopted. Wonderful as has been the development of the business to the present day, new fields of endeavor are opened to the warehouseman; indeed, many of those now worked are calling for more intensive cultivation.

The brief descriptions given of types of warehouses have brought out the fact that four walls and a number of floors do not constitute a warehouse. Each type must be designed to meet the special requirements of the commodities handled, the public served, and the local conditions encountered. The United States has not kept pace with some of the other nations in the development of this industry to the point where it serves the interests of everybody—the producer, whether domestic or foreign; the entrepreneur, whether individual, corporation, or consolidation, and the consumer, who in the last analysis is the one that reaps the benefit of enlightenment and advancement or pays the price of ignorance, indifference and folly. As a nation it must be realized that this necessary agency in the exchange of the world's products is a most important one; in fact, next in importance to the establishment of a merchant marine. Let not our warehouse and terminal facilities be found wanting again as they were during the war. Open fields and railroad yards do not prove highly satisfactory storage space, nor do freight cars, when used as such, fulfill their highest purpose.

Finally, it is not alone because the warehouse industry supplies a need, specific, urgent and absolutely necessary, but also because of the unusual and exceptional opportunities for investment which it provides, that it is worthy of deep consideration. Whose consideration? The individual seeking a remunerative business, the bank or bond house placing a sound and conservative loan, the Chamber of Commerce or municipality looking to the fulfillment of a civic requirement, the railroad in need of terminal facilities; yes, even the State that would promote its commercial growth and protect the best interests of its citizenship.

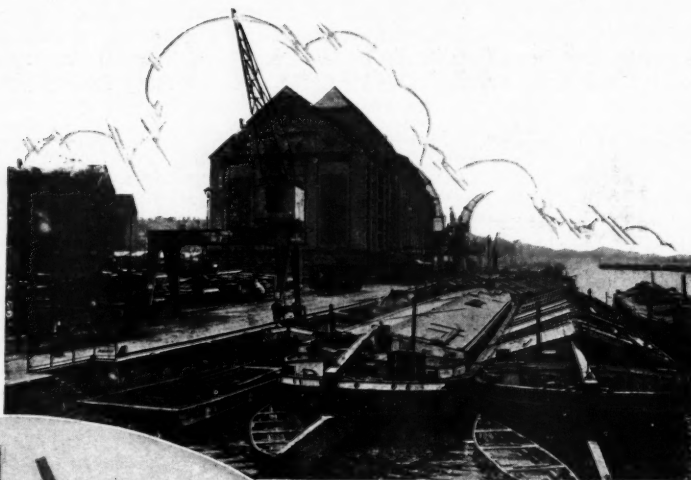
A Pioneer

The traffic managers who used to sneak up into the attic and peruse the Frank Reade stories when they were boys in short trousers are living in days when the "flying machines" in which Frank Reade had many adventures are being utilized for the transportation of commodities. To a limited extent the airplane has become a distributor of merchandise abroad and in America. But the extent will not always be within this present limit.

The author of the Frank Reade yarns was a visualizer. In those days his imagination was scoffed, if read assiduously. In the Twentieth Century it is almost behind the times.

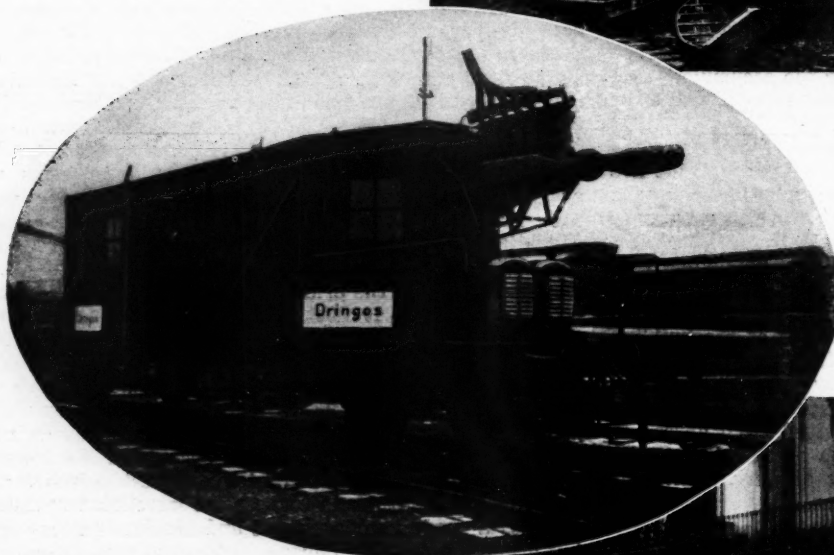
Distribution and Warehousing in Foreign Lands

(Times photos)



Above — Modern pier, grain warehouse and cargo-handling machinery, with ample trackage. Berlin has what most American ports lack.

At German harbors activity has been increasing day by day since the ratification of the Treaty



Above—Germany is trying out a new distribution device—a railway truck which obtains its motive power solely from an airplane engine and a propeller; it is claimed these can be manufactured in great numbers at moderate cost. The Prussian State Railway System is making experimental use of this invention of Dr. Otto Steinitz of Berlin



Above—Type of household goods motor-truck van used in Vienna—Ambassadorial furniture being removed



To left—Showing London's lack of warehouse facilities. Yankee rum piled in a dock shed awaiting storage. Illustrative of how British dock authorities failed to provide accommodation and labor for great quantities of foodstuffs and other commodities which have been pouring into the port

WAREHOUSE CONSTRUCTION

and

LABOR SAVING DEVICES

By
A. H. GREELEY

Both the newcomer and the oldtimer in the warehouse business will find Mr. Greeley's paper profitable reading. This address was made before the Society of Terminal Engineers recently, and Mr. Greeley's selection of the questions - and - answers method of conveying information sought by the engineers will serve to drive home with peculiar emphasis some constructive messages which will be helpful to every warehouseman who has given too little thought to the value of labor-saving machinery. Mr. Greeley is president of the American Chain of Warehouses and a member of the Society of Terminal Engineers. His address reads:

BEFORE touching upon the general subject assigned to me, your chairman has presented certain questions which I shall take this opportunity to answer numerically as presented:

Q. No. 1.—What percentage of general steamship freight is shipped to the warehouse?

Ans.—This percentage would vary according to conditions and kind of cargo carried. It is impossible to arrive at any set percentage as to the volume of this class of freight going direct to the warehouse for storage purposes. In some instances an entire cargo might be stored, while in other cases a very small portion or practically none would be for storage. The general answer to this question would be approximately 10 per cent.

Q. No. 2.—What percentage of

railroad freight goes to the warehouse previous to shipment?

Ans.—If this question refers to export business or freight for steamer loading, the percentage ratio would be extremely high, perhaps as much as 90 per cent, in cases where warehouse facilities are provided suitable for unload-

Some striking points made by Mr. Greeley in his address before the Society of Terminal Engineers:

Competition and poorly constructed buildings and mismanagement are the three dangerous points in the warehouse industry. A terminal built unwisely may have wise competition to overcome. Too much stress cannot be placed upon the responsibility of an engineer toward his client.

Properly locating elevators is a most essential feature in the keeping down of costs of operation.

Installation of lowerators, spiral chutes, gravity conveyors, and special machinery such as cranes and various forms of monorail systems, should be in every modern plant.

The warehouse industry throughout the United States is watching the efforts of terminal engineers and is ready to purchase the fruits of their knowledge.

ing direct to steamers, as very little export freight is loaded direct from cars to steamers where warehouses are available. At some ports where adequate warehouse facilities are not available, freight awaiting loading is held in cars indefinitely and the usual freight congestion follows.

Q. No. 3.—What is the average

period in warehouse for each class of freight?

Ans.—This question is a rather broad one and would require a very lengthy detailed explanation to answer, considering freight in the various classes. The articles which move rapidly, such as food products, will average fifteen days. Chemicals, ceramic goods, hardware and the general line will average approximately sixty days.

Q. No. 4.—Should a warehouse designed principally for railroad freight awaiting steamship shipment be located adjacent to a pier or at the main freight terminus where goods could be shipped in small lots as required to any one of several steamship lines?

Ans.—The usual condition governing the points raised in this question is covered by the fact that steamship companies have in the majority of cases permanent docking facilities, and for this reason freight should be assembled at warehouse located at pier side ready for steamship loading. This method relieves the car situation and insures freight at destination when steamer arrives.

Q. No. 5.—In a marine terminal can a relation be established between the length of dock frontage and the size of the warehouse? If so, what is the proportion?

Ans.—If a warehouse is to be utilized entirely for the assembling of freight for trans-shipment, then a relation can be established between the length of the dock and the size of the warehouse; but where a general warehouse business is to be conducted, and freight is received not only from one door

but from others, and also from railroads and other sources, then no definite relation can be established. In the case where a relation is established, an ideal situation would be the one to have the warehouse the full length of the pier.

Q. No. 6.—In a marine terminal what is the relation between the size of warehouse and the monthly tonnage passing through the terminal?

Ans.—The question as put is not the feature which determines the size of the warehouse, because it is not the monthly tonnage which designates the size of the warehouse feature. There is no relation regarding the size of warehouse and tonnage other than answered in question No. 5. A warehouse must be of sufficient size to accommodate the maximum shipping loads to be handled.

Labor Saving Machinery

Q. No. 7.—To what extent is the design of a modern warehouse modified by the introduction in recent years of electric trucks, tractors and other handling machinery?

Ans.—The installation of electric trucks and labor-saving machinery modified the construction of a warehouse in so far as providing suitable hangers, locations for spiral chutes, conveyors, covering corner posts with bumpers for protection, the elimination of small doors and properly constructed floors over which trucking can be done—assuming of course elevators are of ample size.

Q. No. 8.—Should railroad tracks enter the warehouse or are outside platforms better? What determines each arrangement?

Ans.—The determining feature as to whether tracks should be inside or outside of the warehouse is based wholly upon the physical condition. If the property is to be divided with delivery on both sides, then the track should be placed in the center of the building. This same rule necessarily has to apply (regardless of delivery platforms) if other obstacles exist whereby trackage cannot be had outside the property. Many benefits are derived from the possibility of having cars entirely inside of the building, from the ad-

vantage of loading and unloading in all kinds of weather, the avoidance of theft, etc.

Q. No. 9.—Are outside loading platforms at each story level for use with whip hoists or roof cranes efficient?

Ans.—Yes, under proper conditions.

Q. No. 10.—What is most economical height of a warehouse for any given capacity?

Ans.—There is no established rule which governs the point raised in this question.

Q. No. 11.—Should a modern warehouse be equipped with whip hoists?

Ans.—My personal opinion is that with the coming of rapid traveling elevators, the whip hoists will, in a measure, disappear. A whip hoist will always be a labor saver where commodities capable of being handled in a sling are to be transported from shipside or docks to a place adjacent to the point of unloading. I believe that some member of this Society will some day produce a portable elevator that can be hung alongside of a building and be moved up and down the dock and thus add to the rapidity with which freight can be handled. I can also conceive that an inverted spiral chute operated with power in a steel shaft with doors opening at each floor could be used to great advantage.

Q. No. 12.—What is the best width for loading platform for handling freight from trucks or cars?

Ans.—Ten feet.

Q. No. 13.—In a large warehouse what are the maximum and minimum sizes of fire compartments divided off by fire walls and doors?

Fire Compartments

Ans.—The size of the floor area and the desire for uniformity are the governing features in the placement of fire walls, having in mind that the smaller the area, the lesser the charge for insurance. The rule of the National Board of Underwriters relative to areas for first floor is to permit of 2000 sq. ft. area, assessing a charge of 20 per cent of the basis rate on an area up to 20,000 sq. ft. On the second floor the exception is 1000 sq. ft. with a charge of 38 per

cent of the basis rate up to 20,000 sq. ft. and so on.

In a 9-story building the area charge would be 98 per cent.

Q. No. 14.—What proportion of floor area is effective for storage purposes?

Ans.—Seventy-five per cent.

Q. No. 15.—What is the average rental value of warehouse space?

Ans.—From seven to ten cents per sq. ft. per month.

Q. No. 16.—In estimating rental value of warehouse space, what percentage of total floor area should be taken as income producing on a yearly average?

Ans.—Sixty-five per cent.

Q. No. 17.—Should elevators be placed in one group or scattered? What conditions determine this?

Elevators Avert Trucking

Ans.—Elevators should be located to prevent the trucking of freight a distance of more than fifty ft., which is the maximum for hand-trucking.

Q. No. 18.—Is the elevator layout greatly modified by mechanical handling or electric trucking?

Ans.—Elevators, where tractors are to be used, necessarily should be located to give a proper swing for trailers and so placed that exit may be made from the opposite side from which the tractor has entered.

Q. No. 19.—What is the most efficient size and capacity of elevators for handling general merchandise where it is assumed that electric trucks or trailers will be used?

Ans.—An elevator of 5-ton capacity 12 x 14 represents a combination capable of taking care of the usual combination of requirements.

Q. No. 20.—Is the increased cost of the new automatic self-leveling elevator warranted by the increased capacity for rapid handling of freight and saving in labor?

Ans.—Yes.

Q. No. 21.—What percentage of outside walls should be occupied by windows?

Ans.—The percentage of windows in a dry storage warehouse is determined wholly by the location of the aisles, windows being required only at the aisles.

Q. No. 22.—What is the most ef-

rective clear story height for general storage warehouses?

Ans.—Ten and one-quarter feet.

Q. No. 23.—What is the best floor surface for a storage warehouse?

Ans.—Authorities differ on this question. Some favor a special formula of concrete; others maple flooring; and in one of our own warehouses, where five different kinds of flooring have been installed, a special prepared asphalt block is giving the best results. The Carter Lumber Company of Kansas City are placing on the market a prepared flooring under the trade name of "Bloxonend;" the blocks standing on end are dovetailed to a wood mat. The sides are grooved and through this groove the flooring is nailed to a base; after being nailed the key is inserted which ties each section together; and from opinions at hand, it seems that the question of a sturdy floor to withstand the heavy trucking, tractors, etc., has been solved.

Getting back to the general topic, that of "Warehouse Construction and Labor-Saving Devices," it is clearly the duty of an engineer, in working out plans for terminals, to impress upon the mind of his client that the ultimate successful utility of the property and its ability to produce must necessarily present in detail a plan of construction, a combination of physical qualities—first, to be able to conduct the business from the standpoint of safety; second, with the viewpoint of service coupled with the necessity of producing an earning sufficient to insure the protection of the money invested in the enterprise.

Three Dangerous Points

Competition and poorly constructed buildings (by which I mean those which are built without regard to their utility) and mismanagement, are the three dangerous points in the warehouse industry, so that a terminal built unwisely may have wise competition to overcome; and as the best is never any too good, too much stress cannot be placed upon the responsibility of an engineer toward his client.

The subject of the kind of materials to be used in building con-

struction is regulated by building codes and physical conditions governing the layout, and of course by the money to be expended for the purpose. Reinforced concrete construction in the present age seems to be the most popular of materials, while steel construction properly protected for fires is undoubtedly the most dependable. Many types, however, of mill-constructed buildings, are receiving as low insurance rates as other types of construction. From the warehouseman's point of view, many times the insurance rate is the deciding factor in the securing of business when service and other conditions are equal.

Insurance Rates

The members of this organization, I am sure, are all conversant with the facilities offered by the National Board of Underwriters and the assistance the National Board gives in going over specifications, all of which are points well worthy of consideration in endeavoring to secure for your clients the lowest possible insurance rates.

The subject of properly locating elevators, a most essential feature in connection with the keeping down of costs of operation, has been clearly referred to in the discussions following the questions promulgated by your chairman.

Building construction, kinds of material, quantities, with you men are matters of every-day practice and are points which you would not desire to have time consumed in discussion at this moment.

The question of floors, practically covered by the discussion, has been a matter of considerable experiment in the past. Many concrete hardeners are in the market used for surfacing and to prevent dusting as well. There are also a number of liquid sprays with paraffine base to avoid dusting, all of which are used considerably throughout the warehouse industry. The use of maple flooring in small areas where expense is not such a vital point, has proven well its worth. Wood block, specially prepared cement blocks, asphalt blocks, have all been tried more or less successfully. After an extensive test recently completed by one of the large trunk line rail-

roads, the railroad has decided on the use of a special combination asphalt block.

There are so many things which come to my mind as a layman in connection with warehouse construction, all of which seem like an insult to your intelligence for me to presume to discuss with engineers of your prominence and ability.

As to the question of labor-saving devices—the installation of lowerators, spiral chutes, gravity conveyors and special machinery, such as cranes and various forms of monorail systems, should be used in every modern plant.

The warehouse industry throughout the United States at all of its meetings set aside a great portion of time for discussing the subjects which you have asked me to consider with you here to-night, so that you may be well impressed with the thought that those whose interests are the most vital in terminal facilities, are watching the efforts of this organization and are ever ready to purchase the fruits of your knowledge.

Urges Continuance of Terminal Committees

WASHINGTON, D. C., Feb. 19.—What will become of the special terminal committees organized by the Railroad Administration, after the carriers are returned to corporate control?

The Director-General of Railroads, in a communication to the American Railway Association, suggest they continue their work at seventy-three of the country's chief terminals and that the shippers continue their representation on the committees. Pointing out that this is "highly desirable, from the point of view of continued and improved efficiency of operation in the terminals," the Director-General says:

"While I appreciate the difficulties of getting joint action of this character under private management, I think that advantage both to the public and the railroads is such as to make it desirable for you to consider calling this matter to the attention of the advisory members of the executive committee of the American Railway Association and in that way to the attention of the railway executives."

Florida Motor Company Organizes

JACKSONVILLE, FLA., Feb. 2.—The Florida Motor Transportation Co. has been organized here to do a general transportation and storage warehouse business. The officers are: W. H. Andrews, president; J. M. Oliver, vice-president; William P. Pitt, secretary; H. H. Moore, treasurer. The capital stock is \$500,000.

COTTON WAREHOUSING

Shall the Southern Grower or the Northern Banker Control?

By Harvie Jordan

(National Campaign Director of the American Cotton Association)

THE solution of no problem is complete until it has been settled right. Right means equity and justice between all parties at interest.

The greatest economic problem of the South which is yet to be solved right is the proper baling, handling and marketing of the cotton crop. The greatest single concentrated interest in the American raw cotton industry is that of the two million growers and their families who each year plant and harvest the crop. Close students of the marketing of cotton are all agreed that the first essential need of the growers is ample warehousing capacity in each cotton growing county. No intelligent economic system of marketing spot cotton by the growers can be devised and put into successful operation which does not provide ample local warehousing capacity. The American Cotton Association realizes that the proper solution of this problem constitutes one of the most important plans in its platform of constructive work for the cotton growing interests of the South.

A southwide county cotton warehouse campaign is being prepared and systematized for getting specific and definite results in this highly important feature of the association's work. The officials of the Warehouse Division of the Federal Bureau of Markets are loyally co-operating with the association and will render every possible support toward the complete success of the movement. In addition to this, the Federal Bureau of Extension Service, South, embracing the state Directors of Extension Work and County Demonstration Agents, will render every possible co-operation to the warehousing plan and the broader extension of diversified safe and sane farming throughout the South. Large construction corporations are working on plans for the most economic construction of these local warehouses, so that the material can be shipped in manufactured form, knocked down, and can be then quickly put together as a completed building.

The officials of the Federal Warehouse Division are ready and willing

to furnish estimates of cost, blue prints of proposed buildings and to give detailed information of every kind pertaining to warehouse construction without cost to any local community or individuals desiring such information. There is enough money wasted in cotton damage each year on the farms and at unprotected market points, and which is a net loss to the growers, to pay for the building of sufficient warehouses in each county to safely store and protect the staple from damage. "Country damage," however, consti-

THIS is a story not alone of Federal co-operation with Southern cotton interests to provide ample warehouse space for storing one of America's chief commodities. It is an interpretation of the attitude of Southern farmers who are antagonistic to the financing plans of the Union Warehouse Corporation. It is a résumé of an industrial battle between the growers in the South and financial powers in the North.

Every warehouseman who stores cotton and every shipper who distributes cotton will be interested in what Mr. Jordan has to say.

tutes only one of the many losses which the growers have to suffer by reason of inadequate warehouse facilities.

Grading and Financing

One big item of loss, as emphasized in numerous Government bulletins, is through the present absence of any reliable system of grading cotton to protect the interest of the growers. Other annual losses amounting to millions of dollars is the rush of the staple on the market in the fall months because of the absence of proper warehousing and financial facilities. Continuous heavy selling during the ginning season always means the absorption by speculators of the bulk of the crop, and the penalty which the farmers pay for adhering to such unbusiness-like methods is always found in a depressed market.

The new warehousing system now being advocated by the American Cotton Association provides that each local warehouse shall be bonded

and operated under the control of State or Federal laws; that a competent weigher and grader shall be licensed under State or Federal law and placed in charge of each such warehouse; and that wherever possible every warehouse shall have the overhead sprinkler system so as to minimize the danger of fire and greatly reduce the present high cost of insurance.

With cotton stored and protected in a warehouse, and the owner holding a receipt, backed by his State or the Federal Government, and showing the exact weight and grade, such owner can easily finance his cotton and market it slowly, or if he sells at once he knows the exact grade of cotton and is no longer at the mercy of the buyer. Any local bank will gladly finance such receipts, or get them rediscounted through the Federal Reserve System, and render this service at a less rate of interest than is now charged on loans with unprotected cotton warehouse receipts as collateral.

The loss from "country damage" last season was estimated at \$60,000,000; the average loss from undergrading is estimated at \$1.50 per bale, which makes \$15,000,000 additional, or \$75,000,000 on these two items alone. Just how many millions are lost each season by overcrowding the market and depressing values would require the estimate of a better statistician than the writer.

Local warehouse construction will be the big outstanding subject for discussion and action at the mammoth National Cotton Conference of the Association to be held at Montgomery, Ala., on April 13 to 16. If the cotton growers and their local allied business interests do not provide these warehouse facilities, corporations from the outside will provide them and handle the industry for their own selfish purposes.

The Union Warehouse Corporation

On the surface the organization of a thirty million dollar corporation in New England for the purpose of investment in warehouse construction throughout the cotton States was not a matter to arouse adverse comment or create objec-

tionable criticism. Especially was this the case when the original promoters of the big Union Warehouse Corporation, having its domicile in New England, proclaimed that one of the leading and prime purposes of the movement was to economize the baling of cotton by the introduction and development of high density gin compression as a specific adjunct to the warehouse business. But this beautiful theory and propaganda of the New England interests, to render a real substantial aid to the cotton growers in particular, and the cotton trade in general, was, unfortunately, very short lived. It appears only to have been a passing zephyr of wind which did not linger long enough to even create a memory in the thoughts of the general Southern public, or those who advanced the idea. The feather-edge of the New England Union Warehouse Corporation had hardly worn off before the New England promoters had shifted from the assumed guardianship of the cotton growers, and were found in bed with the large cotton merchants who owned all the big compress plants and many large warehouses in the South.

The compress interests exerted a much greater influence over the minds and prospective bank accounts of the New England promoters of the Union Warehouse Corporation, and so to-day we note in press dispatches references to a giant combine of the compress interests with those of the Union Warehouse Corporation. This means a consolidation of capitalized interests amounting to \$100,000,000 for the prime purpose of perpetuating the present wasteful and expensive system of baling and handling cotton, which has for so long a time been a tremendous burden upon the

cotton growers of the South. It means a fight to the finish in the years to come of the great masses of the people of the South dependent upon cotton; against the concentrated vested interests of a giant combine which seeks to perpetuate control of the raw cotton industry in this country.

Past and Future

If we are to judge the future by the past, no great business institution operated and controlled by the general cotton and banking interests of New England will likely prove profitable or acceptable to the cotton growing interests of the South. These combinations of capital for operating great business industries cannot of course be prevented, unless it be shown they are operating in restraint of legitimate trade or otherwise violative of the Federal or State laws.

In connection with this big combine, there is provided a Discount Corporation through which the cotton stored in the warehouses of the Union Warehouse Corporation is to be financed. And this financing is to be done with funds furnished principally by banks in the East. The establishment of the Federal Reserve Banking System unthrottled the hold of Wall Street on the throats of the farmers, merchants and bankers of the South. This proposed Discount Corporation is being ingeniously organized to revive the power of the banking interests of the North and give them the control of financing the cotton crop.

The present purpose of the whole plan appears to contemplate the gradual abolition of storing cotton in locally owned warehouses at attractive interior spot markets, and the concentration of storage in the warehouses owned by the combine;

and also the gradual elimination of loans on cotton by our local banks, and transferring the future financing of cotton in storage to the Discount Corporation through banks in the North and West.

To my mind it appears that the concentrated effort of this giant combine is to gradually get entire control of the storage, handling and financing the cotton crop out of the hands of the present local institutions in the South, and transfer such control to interests dominated by New England spinners, American exporters of cotton and northern banks. The success of such a plan would result in the complete domination of every department of the raw cotton industry by antagonistic interests to the growers, except the planting and harvesting of the crop, and the Union Warehouse Compress Corporation seems to be the medium which has been most carefully devised for that purpose.

The Southern farmers and their allied business interests have suffered the pangs of privation and want, largely through the domination of the cotton industry by New England and Old England for the past fifty years. The sunlight of emancipation is at last beginning to rise above the rim of a horizon so long darkened by adversity and poverty. The South with the development of her local banking institutions and the splendid Federal Reserve System is at last financially able to manage and handle its local economic problems affecting the raw cotton industry.

The American Cotton Association presents the organized medium through which every loyal Southern man can aid in the future solution of these problems, not only for progressive development but for concrete protection.

TARIFF MAKING BASED ON COST ACCOUNTING

(Continued from page 9)

executives who have found devices and systems satisfactory will be asked to file reports with Mr. Criss. This step was decided upon when it was brought out that in some warehouses to-day there stands hundreds of dollars worth of idle labor-saving machinery installed by owners who purchased without proper knowledge of devices in relation to their own requirements.

At the Atlantic City conference the cold storage warehousemen met with I. C. Franklin, specialist in storage, of the bureau of markets, of the Department of Agriculture. Mr. Franklin has for a number of years been interested in cost accounting, especially in

cold storage plants, but also in merchandise and household goods warehouses. He believes that intelligent development of cost finding will tend toward decreasing the expenses of manufacturers who use warehouses, and he has been consulted on many occasions by the warehousemen who are trying to work out a standard basis for calculating fair and equitable rates. At the cold storage session in Atlantic City the warehousemen appointed special sub-committees on investment and fixed charges, classification, cost accounting and refrigerating. The reports to be prepared by these sub-committees will be submitted to the Central Bureau.

An Official Statement on

ARMY BASES

—Their Future: "The policy will be to assist the commercial interests in every possible legitimate way consistent with the best interests of the Government and at the same time receive just returns for the original investment."

(Editorial Note.—The warehousing industry has been curious to know what disposition the Government will make of the Army port terminal facilities. DISTRIBUTION & WAREHOUSING announced last October, on the authority of an Army officer then in service, that it might be years before the vast storage space controlled by the War Department could be turned over to commercial use. Since that time there have been persistent reports that the Government would soon lease this space to the public—that, indeed, leasing actually had begun. In view of these reports, DISTRIBUTION & WAREHOUSING addressed a letter to the War Department asking for information. In reply was received the letter, herewith published, from Lieut.-Colonel John S. Pratt, of the War Department's Transportation Service, at Washington, D. C.)

"THE Government contemplates retaining title to its properties at the various Army Port Terminals, and therefore the sale of said properties, or portions thereof, is not under negotiation.

"You are further advised that the War Department does not contemplate at the present time the leasing of its terminal warehouses to commercial concerns. The military storage situation is now exceedingly acute. Warehouses at the various terminals are practically filled to capacity with military material and supplies acquired during the war emergency period. The War Department is making every effort to clear the warehouses of this military dead storage, in order that they may become available for the use of commercial concerns as early as practicable. The policy of economic retrenchment observed by the War Department in cancelling its leases for premises formerly utilized for military storage purposes, has been a great factor in causing the present congestion at port terminals. The situation is rather complicated, and it is impossible to estimate, even approximately, the date when terminal warehouse facilities can be utilized commercially.

"Such berthing space at terminal piers, as is now available, or will become available in the future, and as is no longer required for use by the War Department or other governmental agencies, will be tentatively allocated to commercial concerns on a license or lease basis, revocable at will.

"When the War Department finds itself in a position to lease its warehouse facilities at Army Port Terminals to

the commercial interests of the United States, the problem of the determination of proper rates to be charged for the various services rendered will be one of the first factors under consideration.

"The policy will be, however, to follow as closely as practicable the local commercial practices and customs prevailing at the port concerned for similar services and privileges. Such practices and customs differ widely at the different ports and therefore the rates applicable at one terminal may not be adaptable to another terminal. In all probability the War Department will call upon the American Warehousemen's Association for cooperation and assistance in arriving at just and equitable rates to be charged at each port.

"The War Department, in utilizing its Port Terminal facilities, does not contemplate competing with commercial concerns, and for that reason the policy of using prevailing commercial rates at each port for services rendered will be adhered to as far as practicable. The War Department does not contemplate entering the commercial game in that sense; it merely desires to throw open to the commercial interests such facilities as become available from time to time, and not required by the War Department and other governmental agencies, rather than have the said facilities stand idle. On the contrary, the policy will be to assist the commercial interests in every possible and legitimate way consistent with the best interests of the Government and at the same time receive just return for the original investment."

New Central West Warehouses

CHICAGO, Feb. 28—Carpenter & Weldon, warehouse engineers, announce plans for constructing a \$100,000 cold storage plant for the S. Miller Fruit Co., Marshfield, Wis., and a \$300,000 combined commercial and cold storage building for the Outagamie County Equity Association,

Appleton, Wis., together with completion of a large commercial warehouse for the Harder's Fireproof Storage & Van Co., Chicago.

M. R. Carpenter is an experienced architect and refrigerating engineer who has had 35 years of experience in the refrigerating engineering business, in connection with the design and construction

of cold storage and allied buildings. H. O. Weldon is an experienced and practical structural engineer and was formerly connected with Moores & Dunford as chief engineer and has had many years of practical experience in warehouse design and construction. Mr. Weldon is a member of the Western Society of Engineers of Chicago.

Plan for National Association Approved by PENNSYLVANIA, SOUTHERN AND PACIFIC COAST WAREHOUSEMEN

ACCOUNTS of the conventions of five organizations of importance in the warehouse industry are presented herewith.

The Pennsylvania Furniture Warehousemen's and Van Owners' Association, the Southern Furniture Warehousemen's Association and the Pacific Coast Furniture Warehousemen's Association each endorsed the White Sulphur Springs plan for organizing the National Furniture Warehousemen's Association. This movement had previously received the approval of the household goods storage men's organizations in Illinois, New Jersey, Maryland and New York, and, as stated in the February issue of *Distribution & Warehousing* the formation of a national body is now assured.

The Texas Warehouse and Storagemen's Association discussed the probability of Federal or State control of warehousemen.

The New Jersey Furniture Warehousemen's Association considered the advisability of urging the State Legislature to pass a law relating to unclaimed freight.

PENNSYLVANIA Plan for National Association Is Endorsed

PHILADELPHIA, Feb. 10—The Pennsylvania Furniture Warehousemen's and Van Movers' Association, at its third annual meeting, held in the Hotel Adelphia to-day, ratified plans for the organization of the National Furniture Warehousemen's Association, in line with similar action taken by organizations in Illinois, New York, New Jersey and Maryland.

According to B. G. Miller, of the Miller North Broad Storage Co., newly elected president, the formation of a national association would be of great benefit to the public, in that when a family wished to move from one city to another the warehouseman packing the furniture would be able to recommend an honest and efficient warehouseman in the distant city. He holds, also, that it would create better service through suggestions and recommendations made at national conventions.

Annual reports of the officers were followed by papers on "The Foolishness of Giving Something for Nothing," by Charles S. Morris of New York; "Warehousemen, Know Thy Business," by William T. Bostwick of Jersey City; "Stopping Complaints at Their Source," by Lloyd Strouse; "Truck Cost Accounting," by James H. Hoeveler, and "The Sales End of the Storage Business," by J. W. Fager.

Insurance Discussed

Discussion of topics relating to the warehouse business followed. Members were cautioned to increase their insurance because of the increase in replacement costs. Collective buying was held to be inefficient unless the buying organization was of sufficient size to prevent

the overhead charges from eating up the saving effected.

Action was taken to make the association more truly a state organization through inducing more out-of-town warehousemen to join. A committee for this purpose was appointed. At present the big majority of members are Philadelphians.

In addition to Mr. Miller, the following officers were elected: vice-president, F. E. Harner, Fidelity Storage Co.; secretary and treasurer, Charles S. Wightman, Penn Storage & Van Co.; directors, the officers and W. E. Sweeting, Atlas Storage Co.; A. P. Hill, Bell Storage Co.; F. E. Aaron, Powelton Storage Warehouse; W. H. Fisher, Washington Storage Co.; Samuel Johnson, Advance Storage Co., and William H. Protzman, Twentieth Century Storage Warehouse Co.

TEXAS Federal or State Control Is Discussed

HOUSTON, TEX., Jan. 25—Probability of federal or state control of warehouses was the keynote of the fourth annual convention of the Texas Warehouse and Storagemen's Association. The meeting here opened Jan. 23 and closed to-day after constructive business and entertaining social programs had been carried out.

"Federal or state control of warehouses is not far distant," Sigmund J. Westheimer, president of the association and head of the Westheimer Transfer Co., said in an address. "It is coming fast. If the war had not ended when it did we would now be operating under federal control. The signing of the armistice forestalled it, but only temporarily.

"And once federal or state control of

warehouses is in effect it will be no easy matter to get out from under. We should not want to get out from under, because we should all be willing to make a fair and legitimate profit on our warehouses. We are not doing that now. Many concerns are still doing certain work at less than cost.

"If federal or state control should come at this time, it would find many of us not earning a profit on our warehouses. You know that what we are now charging would be taken as a basis on which we would have to operate under control of the state or the federal government.

"The thing for us all to do, then, is to see that we are earning rent on our buildings, to see that we get an honest rate for our space. If we do not forestall state or federal control by establishing a fair price for warehouse space we shall regret it when that time comes."

T. L. Waugh of Houston introduced the subject of motor trucks by a talk on "High Priced, Medium Priced, Cheap Trucks."

"There is only one thing to look for," said Mr. Waugh, "in buying a truck. That is quality, and it is irrespective of price. We have found that we usually get out of a truck just about what we put into it. With proper care, and that is the vital point, the average truck will give proper service. A truck is worth what you pay for it. For certain work some trucks are better than others, but on the whole they are all good."

Methods of determining operation costs based on a time and material basis were submitted by Adolph Westheimer.

Insurance

Special forms of insurance were presented to the convention by Max Westheimer in a ten-minute talk.

"A reliable firm," he said, "can get any kind of insurance on anything. Almost any company will write a special

policy to cover damage of any kind, if the firm asking for the policy is reliable."

The meeting adjourned after a general discussion of the subjects treated, and at 8 o'clock members of the convention and their guests were entertained at a theater party at the Majestic Theater, followed by supper and an informal dance.

Discussion of a paper on "State Control of Warehouses," written by W. E. Halm of the New York Dock Company, and first read at the convention of the American Warehousemen's Association in Cincinnati, occupied part of the business session yesterday morning.

The Horse Still Lives

"How I Make Long Distance Hauling Profitable," "Is the Six-Wheel Truck Profitable," and "Motor Trucks versus Teams," were topics discussed by members who told of their varied experiences in the use of teams and trucks.

L. C. Abbott of Fort Worth reviewed the success attained by his company in the use of both types of vehicles. "For long distance hauling over good roads or paved streets," he said, "the truck has a distinct advantage over the horse. For short hauls in the city, however, we have had more success with teams, and on the rough streets particularly so."

E. D. Balcom of Dallas said he had timed both teams and trucks on trips through traffic-congested districts, and had found that teams moved three minutes faster for each mile and a half traveled. In addition, the increased consumption of fuel by a truck, due to the constant shifting of gears, made it more profitable to use teams for that class of work, he declared, adding:

"The principal handicap under which animals work in the South, and especially in the places of low altitude, is that of the climate. The heat and humidity of the atmosphere prohibit the use of animals for any except light loads and short hauls during the summer months. On long hauls horses often become overheated and die. For that reason trucks are more universally in use here than elsewhere."

L. G. Riddell voiced the consensus of opinion, however, when he said: "You have to keep your horses, though, to pull your trucks. Especially down here where our streets are so rough."

The members went to Galveston in the afternoon, going in automobiles. Galveston's warehouses were inspected and the noted landmarks visited. At an oyster farm a sea-food dinner was served, followed by a short dance.

At the business session this morning further discussion took place as to the relative merits of horses and trucks, and Ben S. Horowitz, in charge of motor transportation for the Westheimer Transfer Co. of Houston, spoke at length on the advantages of the six-wheel truck over the standard four-wheeler.

The Westheimer Transfer Co. has introduced several minor improvements on the standard equipment usually purchased, these including a large, square

steel plate as a substitute for the under half of a "fifth wheel." By the use of this plate a "fifth wheel" of any diameter may be used, so that there is no unnecessary delay in connecting up the many different types of trailers to the truck. It was found also, it was explained, that the use of the plate made lubrication more easy and wear on the moving parts less.

A committee was appointed to investigate some of the innovations made use of by Mr. Horowitz and to make a report at the next meeting.

During discussion the increased costs of construction of buildings were considered and a member asked whether one should build at the present time.

"I say," said S. J. Westheimer, "build your warehouse when you need it."

"And I would say hold up on it," said G. A. Sprague of Dallas. "I am building one now and, unless you can be sure of earning a dividend on a basis of \$2.50 per square foot, I would say, 'Don't build.'"

W. I. Ford advised that the utmost economy be used in building, but that warehouses should be built when occasion demanded. Mr. Ford declared no reduction in the price of materials or labor could reasonably be expected for perhaps many years.

It was brought out that the Westheimer Storage Co. built a warehouse seven years ago, at a cost of \$.90 per square foot, and was to-day constructing one of the same type at \$2.75 per square foot.

In answer to the question, "How many of the men present use the Central Warehouseman's Guide?" eight members said they used it continually, sixteen that they used it occasionally, and eleven did not have one or know much about it.

Wants Central Convention

A resolution was adopted unanimously that the Central Warehousemen's Club be invited to hold its next convention in San Antonio, the expense of entertaining the visitors to be assumed by the Texas Association and the San Antonio Chamber of Commerce. A committee on arrangements was appointed to attend to the details of entertainment, should the invitation be accepted.

Waco was chosen as the next convention city for the Texas Association.

The meeting here opened with a business session, with 77 per cent of the total membership of the organization present. In behalf of the city of Houston, Mayor A. E. Amerman welcomed the visitors, and in behalf of Houston's business interests and the Chamber of Commerce Garland S. Brickey made a short talk. Representing the Houston Transfer and Storagemen's Association, under the auspices of which the convention was held, C. C. Geiselman discussed the growth of both organizations and the pleasure with which Houston business enterprises greeted such growth. W. I. Ford responded to the addresses of welcome.

After short talks by Judge Henry J. Dannebaum on the State highway tax and N. Y. Howze on "Mercantile Ware-

housing and Its Problems of To-day," the reports of the president and the secretary-treasurer were read regarding the work done during the past six months.

After luncheon in the Rice Hotel ballroom an automobile trip was taken through the city, all of the large warehouses being inspected.

In anticipation of the large attendance of the convention, the Houston Transfer and Storagemen's Association provided entertainment on a scale hitherto not attempted on similar occasions. While the men were at the business conferences the women folks were guests at theater parties, automobile rides and shopping tours. Friday morning there was a reception and automobile rides.

SOUTHERN

Association Approves Plan for National Organization

JACKSONVILLE, FLA., Feb. 12.—The Southern Furniture Warehousemen's Association, at its three-day annual convention, which closed here today, voted in favor of the plan to organize the National Furniture Warehousemen's Association. When the national organization is formed, probably in July, the Southern will drop all its associate members. Meanwhile the Southern decided not to terminate its existence at this time and arranged to hold its next convention probably in Memphis, the date yet to be selected.

Members who came to the convention from many cities, including Chicago, Cleveland, Indianapolis, Detroit and Cincinnati as well as in the South, found that no definite business program had been arranged, as it had been expected that this would be the association's final meeting because of the national movement. It was felt, however, that the Southern should be continued, and new officers were elected, including W. Fred Richardson, Richmond, Va., president; G. H. Morrow, Atlanta, vice-president, and T. F. Cathcart, Atlanta, secretary (re-elected).

Standardization

Standardization of packing, handling and storage of furniture was declared to be desirable, as a means to equalizing prices which would be favorable to customers. Uniformity, it was pointed out, would enable patrons to learn in advance the tariffs to be charged when moving household goods from one city to another.

An enjoyable social program was held in connection with the convention. This included a boat trip to Green Cove Springs. At a dinner, which closed the meeting, speeches were made by Mr. Richardson, toastmaster; C. H. Moores and Frank Hobard, Chicago; L. H. Tanner, Detroit; Frank Shellhouse, Indianapolis; William Stacey, Cincinnati; G. H. Morrow, Atlanta, and others.

NEW JERSEY

State Legislation re Unclaimed Freight May Be Sought

NEWARK, Feb. 18.—The February dinner and business meeting of the New Jersey Furniture Warehousemen's Association, held at the Down Town Club here to-day and was well up to the standard of those that went before. Members were present from Newark, East Orange, Jersey City, Elizabeth, Atlantic City, Trenton, Summit, Rutherford and New York. Three new active members were elected: William Heald & Co., Atlantic City; Henry P. Blace (Englewood Fireproof Storage), Englewood, and R. J. Wilson, of Roselle.

Sale of unclaimed freight came in for long discussion and was referred to the committee on legislation and insurance. As no definite information seems available and there is no specific law in New Jersey covering the point, Frederick Petry's suggestion that a bill be submitted to the Legislature was given favorable consideration, and the committee will report at the next meeting.

Current bills in the Legislature were discussed and none was considered directly detrimental to the warehouse or moving business. Several bills would control landlords and property owners against evicting tenants at certain times of the year, which would virtually eliminate forced removals in the winter. A representative of the association is making a fight against these bills. All members were advised to give careful consideration to their liability insurance on motor vans. The consensus of opinion was that coverage, known as "five and ten" (\$5,000 and \$10,000) was not sufficient and should be doubled.

A Mystery

Members were warned to refrain from communicating with the so-called National Furniture Warehousemen's Association of 309 Broadway, New York, until that organization can be investigated. It was stated it had no connection whatever with the National Furniture Warehousemen's Association formed at White Sulphur Springs last December.

Condition of business was reported generally as follows: Storage, good, though more empty space than last year; moving, very slow, on account of the bad condition of the streets; packing, fair; collections, good.

The following standing committees were appointed by E. T. Bostwick, president:

Legislation and Insurance—Frederick Petry, chairman; Thomas L. Morton, Charles Milbauer, John O'Connor, George Weimar. Transportation—Charles Milbauer, chairman; Joseph J. Kroeger, N. M. Hotchkiss, Henry P. Blace, George Barber. Uniform Methods—Willard Eldredge, chairman; E. B. Conant, Griswold Holman, James Mulligan, Joseph Lupo. Membership—Gris-

wold Holman, chairman; T. L. Morton, Willard Eldredge, Frederick Petry, R. T. Blauvelt, George Sebold. A committee on cost accounting will be announced later.

PACIFIC COAST

Separation of the A. W. A. Sub-Divisions Urged

SAN FRANCISCO, Feb. 24.—The proposal to organize the National Furniture Warehousemen's Association was endorsed by the Pacific Coast Furniture Warehousemen's Association at its fifth annual convention, which closed here to-day. The proposal was the main topic for discussion at the two business meetings of the convention. Many speakers advanced the opinion that the present American Warehousemen's Association was too large.

The convention went on record as favoring the division of the American Warehousemen's Association into three separate organizations, with a separate management and secretary for each.

It was decided to send three delegates to the next American Warehousemen's Convention. The delegates were instructed to confine their activities to household and furniture warehouse matters.

"If the convention proposes to deal with any matters except those that concern the household and furniture warehousemen, the warehousemen of the Pacific Coast want nothing to do with it," declared C. C. Colyear, retiring president of the Pacific Coast Furniture Warehousemen's Association.

Mr. Colyear expressed opinion that the formation of the national organization would mean the disruption of the household goods sub-division of the American Warehousemen's Association.

The convention here was attended by more than 100 delegates representing sixty-five different warehouses. A 30 per cent. increase of membership during the year was reported.

The convention program was of four days' duration. Two days were given over entirely to social affairs and to getting acquainted. The members and guests of the Association were taken on automobile drives around San Francisco and the other cities. Special attention was given to seeing the beautiful San Francisco bay and harbor. The social program also included two dinner parties, a dinner and a dance.

Business meetings were held yesterday and to-day. F. L. Bateman, president of the Illinois Warehousemen's Association, was one of the principal speakers. He urged the formation of a national organization of furniture warehousemen. A number of warehousemen from the Middle West and the East were in attendance.

Officers were elected for the coming year. F. R. Palmateer, one of the eight vice-presidents, was chosen president. He will succeed C. C. Colyear, of the Colyear Van and Storage Co., Los An-

geles. Mr. Palmateer was manager of Bekin's Van and Storage Co. of Los Angeles for more than fifteen years. Late in 1919 he bought the Fidelity Fireproof Storage Co. of Los Angeles, which he is now managing.

W. A. Hicks, Capital Van and Storage Co., Sacramento, was elected first vice-president.

Grant Orth, Orth Van and Storage Co., Pasadena, was unanimously re-elected secretary-treasurer.

The next annual convention will be held in San Diego. No time has been set for the event, but it will probably be held some time in February, 1921.

Philadelphia Planning Warehouses

PHILADELPHIA, Feb. 16.—Development of warehousing will play a part in Philadelphia's plans for improving the port. George S. Webster, director of the Department of Wharves, Docks and Ferries, in discussing Mayor Smith's determination to carry out every municipal project deferred by the war, said that the city's public departments would co-operate toward "provision for ample avenues of access to the piers and warehouses for vehicles engaged in distributing freight locally."

Commenting on the situation, Ernest T. Trigg, president of the Chamber of Commerce, declared Philadelphia must have more warehouse facilities. "To get a business house to ship through Philadelphia," he said, "we must give every advantage to the shipper. He must be able to get his shipments through with ease and facilities. He must have railroad terminal facilities, the warehouse facilities, the dock facilities and then the boats to carry his goods."

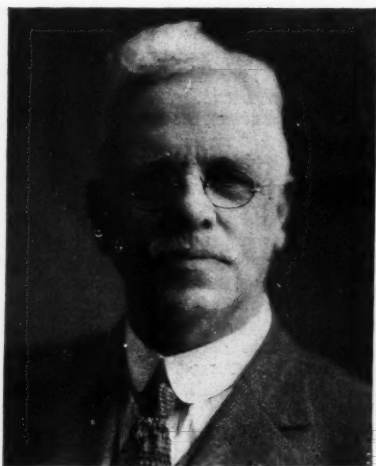
Massachusetts Bills Opposed

BOSTON, Feb. 21.—The annual bills providing that moving men record with the city and town clerks throughout Massachusetts the names of everyone whose goods are taken from one place to another, the amount of goods, when and where taken, from where taken, etc., have made their appearance in the State Legislature. This year there are two measures instead of one. They have been put in on behalf of credit houses who wish to be saved the work of looking up debtors, some of the burden to be put on the truckmen. The motor interests have defeated these bills the past two years. The Motor Truck Club of Massachusetts has taken action this year and it will oppose them in conjunction with the Furniture Movers Association.

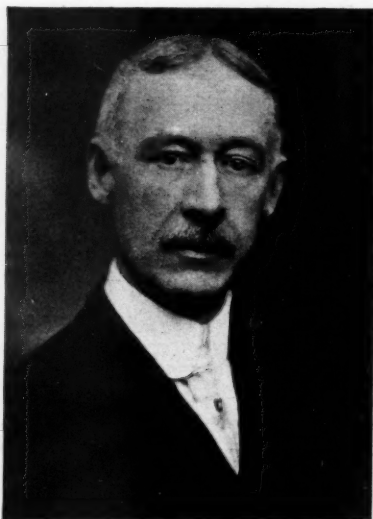
Death of Frederick P. Thompson

DES MOINES, IOWA, Feb. 9.—Frederick P. Thompson, for twenty-five years vice-president of the Merchants Transfer & Storage Co., died to-day of pneumonia. Mr. Thompson came to Des Moines from Boston a quarter of a century ago and associated himself with the Merchants Transfer & Storage Co. He was 67 years old and is survived by two brothers, T. T. Thompson of Pasadena, Cal., and S. S. Thompson of Yonkers, N. Y.

These twelve men are among the 1920 leaders



W. L. Hinds, Des Moines
New president of the Central Warehousemen's Club—Mr. Hinds is president of the Merchants Transfer and Storage Co., Des Moines, Iowa



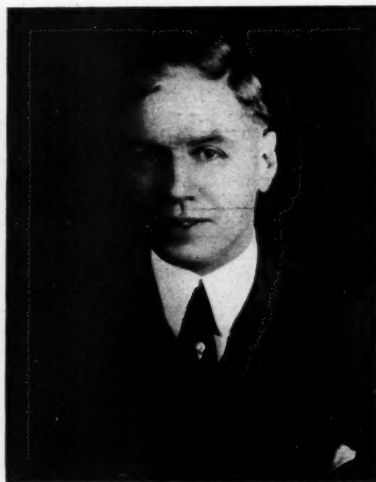
Charles L. Criss, Pittsburgh
Executive director of the campaign in progress by the American Warehousemen's Association to have storage men throughout the country adopt the Massachusetts system of cost accounting and standardization of basis for rates—Mr. Criss is general secretary of the A. W. A. and is in charge of the organization's Central Bureau



Grant Wayne, New York
New president of the New York Furniture Warehousemen's Association—Mr. Wayne is manager of the West End Storage Warehouse, New York City



W. Fred Richardson, Richmond, Va.
Elected president of Southern Furniture Warehousemen's Association. Mr. Richardson is president of W. Fred Richardson, Inc.

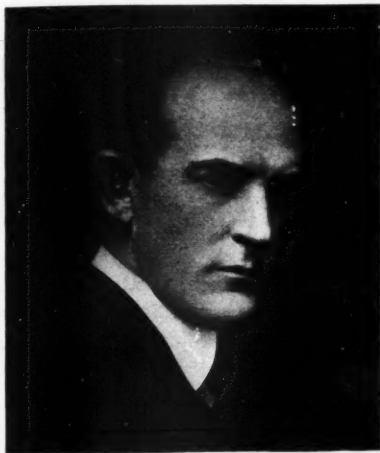


Herbert N. McEwen, St. Louis
Member of advisory committee chosen at Cincinnati to organize national association of industrial traffic managers. Mr. McEwen is vice-president of the Acme Transfer and Storage Co.

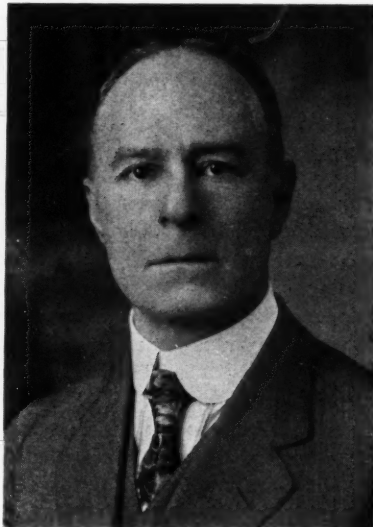


S. J. Westheimer, Houston
Elected president of Texas Transfer and Storagemen's Association. Mr. Westheimer is president of the Westheimer Warehouse Co., Inc.

in the distribution and warehousing industries



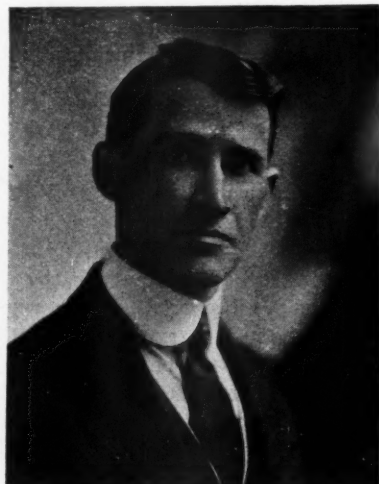
W. I. Ford, Dallas
Chosen secretary of Texas Transfer and Storagemen's Association. Mr. Ford is manager of the Interstate Forwarding Co.



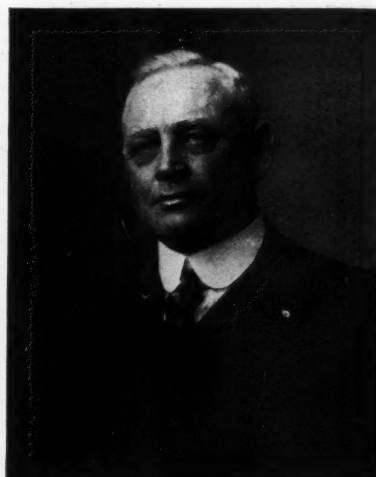
George Hamley, Minneapolis
Re-elected secretary of Central Warehousemen's Club. Mr. Hamley is president of the Colonial Warehouse Co.



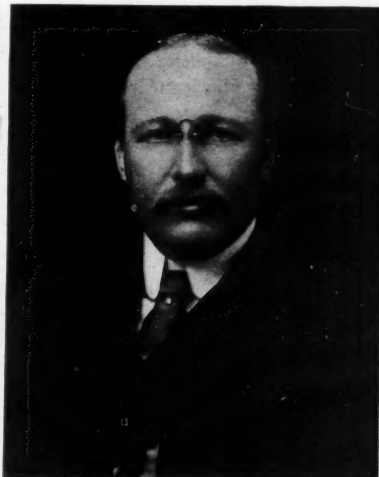
Sidney A. Smith, Chicago
Recently chosen vice-president of the Central Warehousemen's Club. Mr. Smith is manager of the Currier-Lee Warehouse Co.



T. F. Cathcart, Atlanta
Re-elected secretary of Southern Furniture Warehousemen's Association. Mr. Cathcart is president of the Cathcart Transfer and Storage Co.



F. E. Scobey, San Antonio
New vice-president of the Texas Transfer and Storagemen's Association. Mr. Scobey is president of the Scobey Fireproof Storage Co.



G. H. Morrow, Atlanta
Elected vice-president of the Southern Furniture Warehousemen's Association. Mr. Morrow is president of the Morrow Transfer and Storage Co.

Editor's Page

"Distribution Manager"

WE believe a constructive keynote has been sounded by the traffic manager whose letter appears in our Readers' Forum department this month. Our experience in corresponding with manufacturing companies in recent weeks has proven that the term *traffic manager* as related to the warehouse industry is often a misnomer.

A traffic manager has to do with routing his employer's commodities by rail or water, and there his duties in many instances terminate. More frequently than is generally known his duties do not associate him in any direct way with the warehouseman; correspondence with the storage executive is handled by another employee—sometimes by the distribution manager, sometimes by the sales manager, often by the manager of the transfer department.

At this time when the movement is under way to organize a national association of shippers' representatives who distribute through warehouses it is proper that the supporters of the plan should give consideration to uniform adoption of the title *distribution manager*. Into the national organization will come not alone traffic managers, but sales managers and other manufacturers' employees who handle the warehouse accounts. A com-

mon term—*distribution manager*—would serve acceptably for all, and a great deal of confusion which would otherwise arise would be averted. Moreover, were the title *distribution manager* to be incorporated into whatever name is to be given to the new national association, any nominal conflict with the National Industrial Traffic League would automatically be avoided. The N. I. T. L. includes members who have no relations at all with warehousing, and the tentative plans for the association to be organized are such that the two bodies will not overlap or oppose one another.

Distribution & Warehousing has sounded the opinions of a number of traffic managers representing manufacturing companies who use warehouses, and finds that the suggestion of adopting the term *distribution manager* meets with strong approval. We learn further that the warehouse industry itself would welcome and support the change.

What is *your* thought? Are you against it? Do you approve? Traffic managers and warehousemen both are urged to write us their opinions so that these may be placed in the hands of the shippers' representatives who are planning to call a meeting of their associates, probably in Chicago, within a few months.

Cost Accounting

THE cost accounting campaign which the American Warehousemen's Association is carrying on through the instrumentality of its Central Bureau at Pittsburgh deserves the earnest support of the industry. In no more efficient manner may a storage executive learn to know his business and how to make his own tariffs for handling and storing commodities for distribution and for storing household goods. Warehousemen in many cities, notably Boston, Providence, New York and Kansas City, have proven this conclusively, and these men stand ready to pass on to others the information which they have obtained after years of effort and expenditure of thousands of dollars.

But this information cannot be passed on effectively

unless warehousemen in the communities co-operate actively, not passively, with Mr. Criss at the Central Bureau.

If questionnaires are sent out from Pittsburgh, detailed responses should be prepared and returned. Every storage executive who has not experimented with cost accounting in his plant should begin to do so at this time, when the Central Bureau's plan is in its infancy, so that he may derive from it the full benefits which will be his if he does his part.

Warehousemen who are not members of the national association should apply for membership without delay. Cost accounting is to be learned through organization. Organization means profits.

A Two-Cent Idea

A certain storage executive has considered it worth his while to defray the necessary cost of postage, paper, envelopes, ink and time to write us his thought that the

traffic manager who remarked at Cincinnati that there had not been "enough early funerals in the warehouse industry" is probably employed by a company which manufactures coffins!

A MESSAGE

To Industrial Traffic Managers

*And Sales and Distribution Managers and Other
Manufacturers' Representatives who
Handle Warehouse Accounts*

Do you know that you are eligible to membership in a NATIONAL ASSOCIATION which is to be organized for the purpose of placing you in more intimate business contact with America's merchandise warehouse industry?

Industrial traffic managers who attended the Cincinnati convention of the American Warehousemen's Association in December have formed an advisory committee which is planning to call a NATIONAL CONVENTION of manufacturers' representatives who have relations with warehousemen.

The chairman of this advisory committee is Frank E. Jones, traffic manager of the Furniture Manufacturers' Association of Grand Rapids, Michigan.

Scores of traffic managers have indicated their desire to become members of the proposed NATIONAL ASSOCIATION.

The advisory committee's plan will be published in the APRIL issue of *Distribution & Warehousing*.

Meanwhile every shipper's representative who handles warehouse accounts and who is interested in this organization plan should place his name on file with Mr. Jones.

Eliminating

WAREHOUSE FIRE HAZARDS

(Editorial Note.—This is the second of a series of articles telling how and why the National Board of Fire Underwriters is conducting a State-by-State campaign to eliminate fire hazards from warehouses. The third will appear in the April issue.)

THIRTY-TWO Conservation and Fire Prevention Associations had been organized throughout the country by March 1 by the National Board of Fire Underwriters in its campaign to reduce fire losses, first in all warehouses and finally in all industries and the homes and the schools. Six more of these organizations will be created during March—one in each of the New England States—and others will be formed in Arizona, California, Idaho, Montana, Nevada, Oregon, Texas, Utah and Washington during April.

The National Board of Fire Underwriters is a service organization and has nothing to do with fixing fire insurance rates. Through the work of the Conservation and Fire Prevention Associations, however, the fire menace in warehouses will be lessened, and a definite result will be that insurance companies will do underwriting on storage plants at lower rates. And the high fire rates which the companies charge to-day are of deep concern to warehousemen, as was evidenced by discussion of this subject at recent conventions of members of this industry.

A list of names and addresses of the presidents of the Conservation and Fire Prevention Associations already organized is published on page 36. The National Board of Fire Underwriters gives assurance that warehouse executives may turn to these Association officers with the certainty that co-operation and counsel will be given freely and without fee. The warehouseman's problem that relates to fire hazards is the problem of the Association officers. Each of the presidents is prepared to

turn his office into a clearing house where information may be obtained by all warehousemen in the State or States over which he has jurisdiction in this campaign.

As explained in *Distribution & Warehousing* last month, each Association is made up of insurance company inspectors. Every inspector is given questionnaires which he will present to the warehousemen, who will be expected to furnish all information regarding fire hazard conditions in their plants. Every inspector will be qualified to give advice on how to remove haz-

ards so that each warehouse may be removed from the insurance class of hazardous fire risks. Warehousemen will be told specifically what the hazards are at their plants, and each will be asked to eliminate them and later to notify the Conservation and Fire Prevention Association in his State that required safety measures have been taken.

The work of surveying the country's warehouses will occupy a year's time. In some of the Central Western States the questionnaires already have been distributed. In the Eastern and Southern and far Western districts, where the

survey has not yet been put under way, the text of the questionnaire has undergone several revisions which are of extreme importance to the warehousing industry. When, in 1921, a second survey is begun, this revised questionnaire will be substituted in the Central Western States for the one now in use. Under the revised document the inspectors will obtain the following additional information:

1. Proximity of warehouse to railroad siding. It is conceded that many warehouse fires originate in freight cars on nearby trackage. The Board of Fire Underwriters considers it essential to know the location of each storage plant in relation to railroad terminals

WHY YOU SHOULD READ THESE ARTICLES

They will tell you what you want to know—and what you ought to know—about your warehouse in relation to fire menace.

They will discuss:

- Reduction of insurance rates—
- Sprinkler systems—
- Fire doors—
- Types of warehouse construction—
- Liability for losses—
- Self-inspection of warehouses—

Army methods of protecting storage plants—

They will keep you in contact with the construction developments in a national campaign designed to minimize fire risks in buildings where so much of the people's foodstuffs and other necessities of life is stored—warehouses.

AND FINALLY

They will point the way out of the Jungle of Excessive Insurance in which most of the warehousing industry has been wandering confusedly for many years. To this end

**THE NATIONAL BOARD OF FIRE UNDERWRITERS
HAS PLEDGED ITS SUPPORT THROUGH**

Distribution & Warehousing.

Next Month—

Read about our Fire Service Department.

Do You Enforce Anti-Smoking Rules?

(Underwood & Underwood)

Ruins of a warehouse in Jersey City, N. J. The National Board of Fire Underwriters says: "This building was destroyed by fire as the result of a lighted cigarette cast away by a careless workman who disregarded the rules against smoking. The cigarette ignited chlorate of potash scattered upon the floor, and a terrific explosion ensued. The total damage was \$2,000,000"

- and sidings where cars of merchandise are accustomed to be stood while awaiting loading or unloading.
2. **Contents of warehouse.** If the owner accepts for storage such commodities as varnishes, oils, paints and other inflammable products, the Board of Underwriters considers it essential to know it.
 3. **Size in stories, cubic area and square-foot space of warehouse.** Fire doors, fire walls, sprinkler systems and other fundamentals of protection cannot be ignored in the work of transforming hazardous risks into safe structures, and the information here sought is considered essential in that connection.
 4. **Value of goods stored in warehouse over a given period.** It should be kept in mind that the vast store of information which will be obtained through the never-ending surveys will be invaluable to the Government in time of war; and the Board of Fire Underwriters, which aided the Federal authorities during the World War, and will be prepared to do so again in the event of another war, considers it essential to know whether a warehouseman is prepared to do \$1,000,000 or \$10,000 business annually.

For the benefit of warehousemen who did not read the first of this series of articles, we publish herewith a summary of information which the Association inspectors will seek under the wording of the questionnaire as originally prepared. Cut this out, go through your warehouse with a stenographer—and be prepared to answer questions when the inspector visits you. The information sought relates to the following items:

Location of warehouse. Name of occupant. Kind of business carried on. Name of owner. Address of owner. Name and address of person to whom local or State fire officials would send orders applying to building and to occupancy. Whether any property has burned while under charge of operator or owner; if "yes," a report thereon. General construction of warehouse, fireproof, brick, frame or other well-defined type; roof, floor, floor openings—cut-offs. Exposure. Power. Lighting. Heat. Stovepipes and chimneys. Cleanliness: general condition—waste cans, lockers, smoking, crowded condition, overtime or continuous operation. Special hazards. Protection (a) emergency—guards, watchmen; (b) fire appliances—extinguishers, pails, stand-pipes, fire alarms, sprinklers. Public protection; fire department; distance; hydrants available. Hazardous conditions liable to cause fire. Conditions favoring spread of fire. Deficient protection.

It is significant that A. H. Greeley, president of the

American Chain of Warehouses, in a recent address before the Society of Terminal Engineers, said:

"The members of this organization, I am sure, are all conversant with the facilities offered by the National Board of Fire Underwriters and the assistance the National Board gives in going over specifications, all of

which are points well worthy of consideration in endeavoring to secure for your clients the lowest possible insurance rates." Mr. Greeley said also: "From the warehousemen's point of view, many times the insurance rate is the deciding factor in the securing of business when service and other conditions are equal."

Here is given, State by State, a list of the presidents of the Conservation and Fire Prevention Associations which have thus far been organized. These men are at your service. **DISTRIBUTION & WAREHOUSING** in a subsequent issue will print a completed list.

ALABAMA John Goldsmith, 1913 Sixteenth Avenue, S., Birmingham.	MARYLAND† Edward H. White, 424 Walnut Street, Philadelphia.	OHIO William R. Drake, 1001 Hartman Building, Columbus.
ARIZONA (To be organized in April.)	MASSACHUSETTS (To be organized in March; see <i>Connecticut</i> .)	OKLAHOMA H. C. Seitz, 1102 State National Bank Building, Oklahoma City.
ARKANSAS J. K. Shepherd, 332 Gazette Building, Little Rock.	MICHIGAN S. T. Sheppard, 1105 Oakland Avenue, Ann Arbor.	OREGON (To be organized in April.)
CALIFORNIA (To be organized in April; will be divided into northern and southern.)	MINNESOTA Louis L. Law, 1154 Plymouth Building, Minneapolis.	PENNSYLVANIA (<i>Central</i> .) M. J. Richards, Harrisburg.
COLORADO* John C. Jamieson, 722 Gas & Electric Building, Denver.	MISSISSIPPI‡ W. Y. Harper, Canal-Commercial Building, New Orleans.	PENNSYLVANIA (<i>Eastern</i> .) R. H. M. Stuart, 308 Walnut Street, Philadelphia.
CONNECTICUT (To be organized in March; C. H. Senter, Hartford, meanwhile is chairman of an advisory committee for the six New England States.)	MISSOURI Earl W. Thomas, 1419 Pierce Building, St. Louis.	PENNSYLVANIA (<i>Western</i> .) A. K. Black, Jr., Magee Building, Pittsburgh.
DELAWARE† Edward H. White, 424 Walnut Street, Philadelphia.	MONTANA (To be organized in April.)	RHODE ISLAND (To be organized in March; see <i>Connecticut</i> .)
DISTRICT OF COLUMBIA† Edward H. White, 424 Walnut Street, Philadelphia.	NEBRASKA H. W. Hicks, 410 Keeline Building, Omaha.	SOUTH CAROLINA Edward Cay, Columbia.
FLORIDA Dorsey T. Davis, 905 Heard Building, Jacksonville.	NEVADA (To be organized in April.)	SOUTH DAKOTA D. P. Lemen, 335 North Maine Avenue, Sioux Falls.
GEORGIA Clarence L. Ruse, P. O. Box 886, Atlanta.	NEW HAMPSHIRE (To be organized in March; see <i>Connecticut</i> .)	TENNESSEE M. J. Lafon, 514 Independent Life Building, Nashville.
IDAHO (To be organized in April.)	NEW JERSEY Frank M. Taylor, 58 Maiden Lane, New York City.	TEXAS (To be organized in April; probably will be divided.)
ILLINOIS E. T. Tanner, 1029 Insurance Exchange, Chicago.	NEW MEXICO* John C. Jamieson, 722 Gas & Electric Building, Denver, Colo.	UTAH (To be organized in April.)
INDIANA B. J. Gilmore, 1103 City Trust Building, Indianapolis.	NEW YORK§ (<i>Metropolitan district and its suburbs.</i>) Mathew S. Reeves, 76 William Street, New York City.	VERMONT (To be organized in March; see <i>Connecticut</i> .)
IOWA Walter Harvey, 310 Kraft Building, Des Moines.	NEW YORK§ (<i>Area outside New York City and suburbs.</i>) Frank M. Crittenden, 534 Gurney Building, Syracuse.	VIRGINIA J. H. Baker, Box 1437, Richmond.
KANSAS E. D. Marr, 701 Jackson Street, Topeka.	NORTH CAROLINA R. G. Hayes, Commercial Bank Building, Charlotte.	WASHINGTON (To be organized in April; will be divided into Eastern and Western.)
KENTUCKY W. T. Sweeney, 51 Kenyon Building, Louisville.	NORTH DAKOTA G. W. Funk, 113 Broadway, Fargo.	WEST VIRGINIA C. C. Wright, 818 Market Street, Parkersburg.
LOUISIANA‡ W. Y. Harper, Canal-Commercial Building, New Orleans.		WISCONSIN M. A. Freedy, 924 First National Bank Building, Milwaukee.
MAINE (To be organized in March; see <i>Connecticut</i> .)		WYOMING* John C. Jamieson, 722 Gas & Electric Building, Denver, Colo.

* Mr. Jamieson is president of the Colorado, Wyoming and New Mexico Conservation and Fire Protection Association, the three States being grouped.

† Mr. White is president of the Conservation and Fire Prevention Association of Maryland, Delaware and District of Columbia, these three being grouped.

‡ Mr. Harper is president of the Conservation and Fire Prevention Association of Louisiana and Mississippi, the two States being grouped.

§ Mr. Reeves is president of the Conservation and Fire Prevention of Suburban New York; and Mr. Crittenden of the Conservation and Fire Prevention Association of New York State.

FROM THE LEGAL VIEWPOINT

By George F. Kaiser

Mr. Kaiser is a practicing lawyer who makes a special study of warehousing and transfer affairs. Service given in this department is free. DISTRIBUTION & WAREHOUSING cannot agree to answer all questions, but will do so as far as is possible.

Concealment of Liquors

Editor, Distribution & Warehousing:

We operate a warehouse here in the city and store chiefly household furniture and the like. We have had the goods of one party in storage for some months and are beginning to believe that they are not all, strictly speaking, household goods, but that included among the barrels and boxes received by us are several containing prohibited liquors. Now we do not know this to be a fact and of course we have no right to break open these packages to find out if our suspicions are justified. What would you do under the circumstances? A. J. W. Co., New York City, N. Y.

ANSWER: The best advice that I can give you if you really think liquor is being hidden is to report the fact to the nearest Internal Revenue office and let it take what steps it thinks best. Of course if you do not know that liquor has been hidden among these household goods you cannot be held responsible.

The chances are that if your sympathies are "wet" your suspicions will not be as strong as if they are "dry!"

Responsibility For Theft

Editor, Distribution & Warehousing:

Are warehousemen responsible for theft of goods out of their warehouse? U. T. Co., Youngstown, Ohio.

ANSWER: Yes and No. It all depends on the circumstances. In some cases a warehouseman may be responsible and in others he may not be responsible. He is chargeable only when the loss is due to his negligence or other fault which is his, but not otherwise. Ask yourself if you omitted to do what a reasonable man would have done to preserve his own property under like circumstances.

Miscellaneous

IN a recent California case it was decided that a warehouseman cannot relieve himself from liability for loss of goods resulting from want of ordinary care and diligence by inserting a clause in a receipt that the goods are deposited at the risk of the owner.

Suit was started against a warehouseman to recover for 12 sacks of wool which had been stored and which the

warehouseman failed to deliver on demand.

The warehouse receipt recited that the property was received "For account and at the risk of the depositor." It further provided that the warehouseman "is not responsible for loss occasioned to the merchandise store, by fire or elements."

The Court decided the warehouseman was not liable when it appeared that the goods had been stolen from the warehouse through no lack of ordinary care or diligence on the part of the warehouse or its employees. *Morse against Warehouse Co.*, 181 Pacific 815.

JUSTICE JENKINS of the Court of Civil Appeals of Texas in a recent opinion said, "in common parlance a 'warehouse' is a house used for storing goods, wares and merchandise, whether for the owner or for someone else and whether the same be a public or private warehouse." *New England Equitable Insurance Co. vs. Mechanics American National Bank of St. Louis*, 213 S. W. 685.

IN Bulk:—In Statutes relating to public warehouses and declaring that no warehouse is public but those with a capacity of 50,000 bushels and then only if the grain is "stored in bulk and the grain of different owners mixed together," as in which the grain is stored in such a manner that the identity of different lots cannot be accurately observed, the phrase, "in bulk," is used in contradistinction to the storage of each owner's grain in kind and without mixing with one another. *State Ex Rel. Wood vs. Smith*, 228 S. W. 493.

THE term "Custody of Property" as contradistinguished from legal possession means the charge to keep and care for the owner, subject to his order and direction, without any interest or right therein adverse to him which every servant possesses with regard to the goods of his master confided to his mere care, which custody may be terminated and prolonged according to the will and pleasure of the master. *People vs. Burr*, (N. Y.), 41 How Prac. 293.

IN the case of *Strong vs. Security Storage & Warehouse Co.*, 177 N. Y. S. 591, it was decided that a warehouseman in the absence of a special contract to the contrary is liable directly to the owner, where goods are stored with him by a common carrier as unclaimed

freight, if he delivers them to some one else by mistake.

THE Supreme Court of North Carolina recently decided that when automobiles were consigned to corporations in North Carolina and were sold directly by the consignees from their storage warehouses in the State, they were not subjects of Interstate Commerce after they reached the storage warehouses. 100 S. E. 693.

CONVERSION:—Every unauthorized taking of personal property, and all intermeddling with it, beyond the limit of the authority conferred, in case, a limited authority has been given, with intent so to apply and dispose of it as to alter the condition or interfere with the owner's dominion is a conversion. *Laverty vs. Snithen*, 68 (N. Y.) 522.

Articles in Storage

Editor, Distribution & Warehousing:

—We are very anxious to learn if there has been any decision handed down by the courts bearing on contents of articles placed in storage.

We have a case at the present time where the warehouse receipt was issued calling for one bundle of carpets and the customer claims two oriental rugs were missing from the bundle at the time she opened same two days after delivery of the goods. If you can advise us regarding any decisions having been made by the courts bearing on this case, same will be greatly appreciated.—T. C. S. W. Co., Philadelphia, Pa.

ANSWER: There have been so many decisions handed down on the point you are interested in that it is hard to know when to stop citing them to you. As a general rule, the burden of proof is on the owner of property to show that loss is due to the negligence or fault of a warehouseman. It has been held that it is sufficient to prove facts from which such negligence may be presumed and that the warehouseman then must show that the loss was not due to his failure to use due care. Cases in your own city on this point are:

Hoeverl vs. Myers, 158 Pa. St. 461 (27 Atl. 1081).

Pitts. Safe Deposit Co. vs. Pollack, 85 Pa. St. 391 (27 Am. Rep. 660).

Clark vs. Spence, 10 Watts 335.

If goods are stolen the owner must show that the theft is due to the warehouseman's negligence or neglect. In

your case the only question seems to be how many rugs were delivered to you and how many were returned. If you have no record of this, you ought to have a record. If the customer continues to make a claim, the best thing you can do is to refer the matter to some local attorney.

If there is anything further I can do for you, please advise me.

BUSINESS OF BEING A WAREHOUSEMAN

(Continued from December issue)

IN some states there are statutes providing for criminal offenses and prosecutions for the commission of certain prohibited cases by warehousemen.

Thus there are statutes making it a crime to issue a receipt or other written evidence of the delivery or deposit of goods unless the property has actually been stored or after having given a receipt to remove the property without the consent of the holder of the receipt.

In Idaho it is a felony for anyone maintaining the warehouse to sell stored grain without consent of the holder of the receipt. The mere act of selling constitutes the crime, and the intent or motive is held to be no defense.

In Illinois any person fraudulently issuing a receipt or other written evidence of the delivery of any grain, flour, etc.,

when the quantity mentioned has not been actually delivered and is not in storage at the time the receipt is issued is liable to imprisonment. So, too, in that state a person having given a receipt to remove property without the consent of the holder is also liable to imprisonment.

In Indiana, imprisonment from one to ten years in the penitentiary is the punishment for conviction for removing property from storage when it is represented by outstanding certificates.

Maryland, Minnesota and Oregon have somewhat similar statutes.

Claims on Lost Freight

THROUGH the efforts of Edwin H. Ferguson, who is an adjuster for the National Wholesale Men's Furnishings Association, and other shippers, there will be no limit in the future on the time permitted to file claims against the express and freight carriers for loss or damage in shipment. Formerly the stipulation appeared on all bills of lading and express receipts, making it necessary to put in all claims within a period of two years and one day. The Interstate Commerce Commission has ordered that no time limits are to be placed by the carriers.

Willard E. Stevens, secretary of the National Wholesale Men's Furnishings Association, said yesterday that the new ruling is considered very important from the standpoint of the shippers. He explained that during the war numerous losses and damages were caused owing to the abnormal condition of transportation

in the country. Under the former stipulations such losses could be outlawed if claims were not filed within the time limit set by the carriers. For this reason, he said, it appeared that delays were often encouraged by carriers to avoid payments. Unless a very rigorous follow-up system was used by the shipper, he said, in keeping track of what the express company was doing to find lost merchandise, time would go on toward the two-year limit without results.—*New York Times*.

A PROHIBITION DECISION

Although the 18th Constitutional Amendment has actually been in effect only a few days, the question as to the legality of the storage of liquors has already arisen in New York.

An application for an injunction was made by the owner of certain liquors which he kept in a safe deposit vault. It appeared that this man had been in the habit of keeping his liquor in a safe deposit vault for upward of ten years and that the liquors in storage were intended for his own personal use. He asked that the revenue bureau be enjoined from seizing and confiscating the liquor he had in store. The application was opposed by the Government on the ground that only liquor which is to be used for non-beverage purposes may be stored, transported or delivered since the act has gone into effect. The relief asked for was denied.

Rats vs. Varnish

Try This British Method of Eliminating Rodents

Perhaps London points the way to a new method of eliminating rats and mice in warehouses. Varnish is used, the rodents are caught like flies on sticky paper—and Dr. Howarth, London's municipal medical officer, is authority for an opinion that the rats are either frightened to death or engage in individual fights and bite one another to death.

The substance used is a strong lithographic varnish. It should be warmed by heating the container, holding it in boiling water. When warm the varnish will run, and in this condition it should be spread 1-16 to 1/8 in. thick on pieces of strawboard or fairly thick cardboard measuring about 15 in. by 12 in. A margin of about 1 in. should be left clear of varnish, and the bait placed in the center of the board, where it will adhere to the varnish. The traps should be placed along the rat runs, or near the holes. They remain effective for about four days, when the old varnish should be scraped off and a fresh layer applied.

"We are continually faced with the rat problem in the city," to quote Dr. Howarth. "We first discovered varnish being used in a place in Fenchurch Street. Since then we have experimented very successfully. In some cases we

have had 'bags' of 60 and 80, and I can recommend it as an excellent means of ridding a place of rats. Disappointments arise chiefly through the varnish being too weak or too 'tacky.' This allows the rats to move on it with impunity. We are endeavoring to meet that possibility by standardizing the quality of the varnish. People should continue to put down the boards so long as they are catching rats. It does not matter if a board has had a dead rat on it. They should just remove the body and put on more varnish.

"The varnish is not poisonous, and a coroner's jury would probably ascribe death to natural causes following a shock," continued Dr. Howarth. "I think that the rats die of fright. Once their tails stick their doom is sealed. They never get near the bait. They get their feet in the varnish and the more they struggle the faster they stick. Rats caught during the night are always dead in the morning, and it is a very remarkable thing that if two rats get on to the varnish together one of them kills the other. Evidently each thinks that the other is holding him. Then there is a battle royal, and we find one with its neck bitten through. As to the cruelty

of it, we cannot afford to waste sentiment, and it is certainly not as cruel as phosphorous poison, which takes about four hours to kill."

Federal Truck's Birthday

The Federal Motor Truck Co. celebrated its tenth anniversary on Feb. 14. Since the Federal company began the manufacture of trucks in the days when trucks were considered a novelty rather than a necessity, this company has produced \$50,000,000 worth of trucks. It is one of the few companies which has come down through the first decade of the industry without reorganization and without financing.

Growth of Inter-State Co.

DALLAS, TEX., Feb. 23—The Inter-State Forwarding Co., Inc., engaged in storing and forwarding merchandise and household goods, has relocated its business establishment, removing from 3200 Main Street to premises at 601-607 Elm Street. The new warehouse is located on the Texas & Pacific Railroad, in the downtown wholesale district, and has 120,000 sq. ft. of space, and is situated to unload 12 carloads a day.

READERS' FORUM

DISTRIBUTION & WAREHOUSING will welcome receipt of letters from men in the warehouse and distribution fields who have something worth while to say for the benefit of others. Communications of this character should be addressed: Readers' Forum, Distribution & Warehousing, 239 West 39th Street, New York City

WHY "TRAFFIC" MANAGER?

Distribution & Warehousing,
Readers' Forum:

Gentlemen.—As traffic manager of this company I have been greatly interested in the work which your publication has recently undertaken to bring the warehouse industry and the traffic managers into closer relationship. It has seemed to me that there is a definite mission for your publication in fostering this movement, and I have no doubt that the work which you have started will result in great benefit both to the traffic managers and the warehousemen.

I have noticed in our company and among the manufacturers generally that there is a growing tendency to distribute more and more through the merchandise warehouses of the country. With the development of this system of distribution it seems to me that the manufacturers will eventually find it necessary to establish a new department in each organization to have direct charge of distribution. This new department would not only thus deal with the shipping by railroad and motor truck but would also have authority to choose in the various distribution centers of the country the warehouses that would handle their surplus stocks of goods for later distribution and the pool car shipments for immediate distribution.

If such a department is created the authority of the traffic manager will necessarily be increased and his scope of work materially broadened. In that event, the title of traffic manager would no longer properly designate the work of his department and it seems logical to me that the man at the head of this new department in each organization could more properly be called a distribution manager.

Possibly this thought has been brought to your attention before but I should very much like to have your views and the opinion of brother traffic managers on this idea.

Yours truly,

THE X. Y. Z. COMPANY, Traffic Manager.

OUR \$4 ERROR

Akron, Ohio, Feb. 25, 1920.

Distribution & Warehousing,
239 West 39th Street,
New York City, N. Y.

Gentlemen.—Inclosed please find our check for \$4 covering two subscriptions to Distribution and Warehouse. We also wish to call your attention to page 52 of February issue, stating that this company had been incorporated for \$100,000. This is an error, as we have been incorporated for this amount for the past several years.

However, we have recently increased our capitalization from \$100,000 to \$500,000.

Very truly yours,

THE UNION FIREPROOF WAREHOUSE Co.,
By H. S. Knox, Vice-President.

THE "FLAT RATE"

New York, Feb. 26, 1920.

Distribution & Warehousing,
239 West 39th Street,
New York City.

Gentlemen.—Very much interested in the letter on page 52-a of your February number. The gentleman whose letter you quote might be easily accommodated with a flat rate by any warehouseman provided he were to state to the warehouseman just exactly what he wanted in the way of service. I doubt, however, whether he does that. He most probably comes to the warehouseman and asks "What is your storage and labor rate?" failing entirely to mention all other services. It is this omission that makes special charges necessary. I do not believe that gentleman would be satisfied with a flat rate based upon the maximum amount of service in the way of drayage, billing, shipping, etc., if he required only storage and handling from and to the tailboard of his own truck.

Yours very truly,

N. W.

THE EYES

of

The Government—

Business Interests—

Bankers—

The People—

HAVE BEEN

"—focused on the warehouse industry due to the searchlight of inquiry thrown on the subject by the Government during the war period."

CHARLES H. MOORES

Warehouse Engineer,

is authority for that statement. Mr. Moores declares that there is a wonderful opportunity to bring the warehouse business up to a higher standard through co-operation and fraternizing among the storage executives. He tells of this situation in

"The Merchandise Warehouse"
in the APRIL issue of
DISTRIBUTION & WAREHOUSING

Road Construction to Go Forward

Construction has been hindered by war conditions, but will progress rapidly from now on

By Allen Sinsheimer

(Editorial Note—America's good roads problem is of interest to every warehouseman and shipper. Good roads mean decreased distribution costs. Mr. Sinsheimer's article is an authoritative statement of the situation to-day.)

THAT general industrial conditions have hampered road construction is shown in the annual report of the Chief of the Bureau of Public Roads, who reports that of all projects approved, to cost \$91,495,797.99 for the fiscal year 1919, only projects valued at \$18,048,441.97 have been executed. In 1918 the same disturbances and the war caused projects valued at \$41,053,200.67 approved, to be held up to the extent that but \$5,658,458.42 of construction was executed.

The Federal-Aid Road Act has met with a remarkable response on the part of the public, according to the report, and practically all States are now taking advantage of the Federal-Aid allotments. Construction is now going forward more rapidly than at any time in the past two years. Bond issues aggregating \$224,800,000 were authorized and approved by vote of the people, for highway construction up to July 1, 1919, and from all sources, funds amounting to more than \$1,000,000,000 are available for road building.

Road authorities estimate that their organizations will be able to absorb about half of these funds, a statement which, if carried out, will mean that twice as much money will be expended as in any one year in the past. Construction has grown to such immense dimensions, however, as to make the field an attractive one for large contracting firms and the introduction of this element should do much to speed up the work.

Large Appropriations Available

Of the post road appropriations made by the Congress there was available during the fiscal year a total of \$80,000,000, the same being the sum of the appropriations for the fiscal years 1917, 1918 and 1919. From this there was deducted the 3 per cent allowed by law for the administrative purposes and the remainder, or \$77,600,000 was apportioned among the several States. Of this sum there was paid to the States during the fiscal year for road construction work a total of \$2,702,247. At the close of the fiscal year 1918 there had been paid to the States \$425,445. So that the grand total of all payments to the States on June 30, 1919, was \$3,127,693, which left to the credit of the States an unexpended balance of \$74,472,306. In addition, the \$95,000,000 appropriated for the fiscal year 1920 was apportioned to the States, after deducting the 3 per cent for administrative purposes, and that sum became available with the close of the fiscal year. On July 1, 1919, therefore, there was available to the credit of the States for expenditure a total of \$166,622,306.

During the fiscal year the Department of Public Roads approved project statements submitted by the States for 736 road projects, involving the improvement of 6470 miles of road at an estimated cost of \$91,495,797, and on which \$38,664,397 Federal aid was requested. Up to June 30, 1918, 580 project statements had been approved for 6,249.40 miles of road, estimated to cost \$42,278,770, and on which was requested \$16,049,821 Federal aid. So that

on June 30, 1919, there had been approved by this department project statements for a total of 1316 projects involving 12,719.98 miles of road estimated to cost \$133,774,568, of which \$54,714,219 in Federal aid was requested. At the close of the fiscal year, therefore, there remained to the credit of the States an unallotted balance, including the additional funds which then became available, of \$111,908,087.

Six Thousand Miles to Be Improved

Agreements with State highway departments were executed during the fiscal year to cover 453 of the projects for which project statements had been approved. The estimated cost of the projects covered by these agreements amounted to \$41,598,209, of which amount there was set aside in the Treasury \$18,031,680 as Federal aid. At the close of the fiscal year 1918 there had been executed a total of 224 such agreements of an approved estimate of cost of \$14,820,633, of which there was set aside in the Treasury \$5,899,936. Thus, at the close of the fiscal year 1919 a total of 667 agreements to cover projects had been executed, involving a total approved estimate of cost of \$56,418,843, and a total of \$23,931,617 Federal aid. The projects for which agreements had been executed at the close of the fiscal year call for the improvement of a total of 5,791.23 miles of road.

Under the terms of the Federal-Aid Road Act the apportionments to the States for each fiscal year remain available for expenditure until the close of the succeeding fiscal year, but it is construed that funds covered by agreements are expended within the meaning of the law. Each State had a sufficient amount of funds under agreement at the close of the fiscal year to prevent its losing any part of the funds apportioned to it.

Approval by Office of Public Roads

The Office of Public Roads received 7307 applications for approval for road construction which included consideration of materials involving 68,280,401 gal. of road oil, 56,603,832 gal. of tar, 5,657,390 bbls. of cement, 33,000,000 lbs. of steel, 7,000,000 tons of crushed stone, gravel, sand and slag, 2,500,000 linear feet of culverts and pike, 5,500,000 ft. of lumber, 55,059 open top cars, 8543 box cars and 3705 flat cars. As a rule the requests were reduced 60 to 70 per cent before they were approved.

The unfavorable conditions in the last part of 1918 prevented construction of national forest roads, but this work is now increasing rapidly. One thousand three hundred and fifty-four miles of national forest roads have been surveyed, to cost \$9,356,967, the majority of them in Arkansas, California, Colorado and Oregon.

The Bureau is exhibiting materials for road construction, and giving lectures constantly throughout the country for the purpose of increasing the national interest in good roads. It is investigating drainage, having made 126 surveys in thirteen States during the last year. Physical tests of road building materials have been carried on and 1804 samples were tested during the year, including rock, concrete, sand, gravel, slag, cement and other materials.

Fundamentals of

KEEPING TRUCK COSTS

By

S. S. Merrithew,
Transportation Engineer

THE motor truck can keep transportation in step with the onward march of civilization. It can do it when organized business recognizes, and acts on the fact that transportation is our first vital necessity. It can do it because it is the link required to complete all other forms of transportation. But it can only do it effectively when correctly applied, supervised and maintained.

It is this fact that makes cost accounting, routing and dispatching so vital.

Standardization

Cost accounting should be considered in the nature of cost keeping as distinct from the keeping of accounts, since accounts are a matter for individual determination. Each business has its own classification of accounts. Truck cost keeping, however, is something that can be standardized, and without this standardization, owners who keep records cannot help each other nor compare results without serious difficulty and constant error. The knowledge of cost is the prevention of waste.

Cost keeping worthy the name is not alone the keeping of costs, but also that data which controls the cost. Therefore, the system must include both a cost and operation system. Without such a system, no organization, however good, is in a position to select, apply or supervise motor truck equipment and expect it to prove efficient.

Such a system must be fundamentally right, accurately kept, and intelligently analyzed.

By being fundamentally right, the system will make intelligent analysis possible. Its cost should be built on the budget system to be useful for daily reference, otherwise the records must cover a long period before they are dependable. A truck built to last 3, 5, 8 or 10

Your Cost and Operation System for Motor Trucks must be:

- 1—Fundamentally right
- 2—Accurately kept
- 3—Intelligently analyzed

years, which only has a record on it for 1 month, or 2 months, or even 6 months, has not a sufficient record, so that you know what that truck is going to do.

It must be complete enough to make supervision possible. The necessary items will vary slightly, with some lines of business, but all items for every business can be combined in one system.

A record fundamentally right recognizes that a truck should be efficient in time and so will check the truck on idle, productive and repair time, much as the time card checks our workmen. The truck should be efficient in load capacity, economical in fuel and tires and of repairs. It should last long enough, without excessive upkeep, to warrant the investment and enable the truck to provide equipment to take its place when worn out. A record must check these items if we expect to improve in the future. Tabulated experience is the best.

Don't Under-estimate

Next, a cost system must be accurately kept. The real reason for the existence of a system is that it may provide facts on which to base business judgments. If the facts are inaccurate, the business judgments may be worthless. I believe, personally, present inaccuracies are unintentionally due: 1—To under-estimating the worth of work-

ing facts, and 2—To the general lack of knowledge as to the use of those facts. The cure for this condition lies in unlimited co-operation between the manufacturer and the user of motor truck equipment and between individual user concerns.

But accuracy can be carried too far. Cost and operation data is for co-operative purposes, and need only be accurate enough to make the comparison accurate. For example, operating costs per day expressed in fractions of 1 cent are so little more accurate than when stated in even cents, that it is a waste of valuable time to use fractions. Similarly, miles per gallon of oil need only be expressed in even miles, while with fuel it is best to carry out the decimal to two points.

But a system fundamentally right and accurately kept is little more than a mass of figures until intelligently analyzed. This analysis is the most important feature of our present handling of the motor truck. In proving this, the arrangement of the data is of prime importance.

Since cost per day depends upon daily mileage, one ought never to appear without the other for without daily mileage, cost per day means little. Similarly, daily mileage controls the cost per mile and these items ought never to be considered separately; yet they are daily. Recently in New York City, the president of a state association of truck users applied the mileage cost of a 41-mile day to a Boston-New York trip of 249 miles. The result was a decision without value.

Again, the cost per ton depends on the distance hauled and the amount of tons carried at one time. This fact is as true on motor trucks as with the railroads; yet many firms keep a cost per ton without

One fact-statement and three tables prepared by Mr. Merrithew in connection with his paper relating to motor truck cost keeping

Intelligent Analysis is the most important step in the present handling of Motor Truck Data.

the average trip distance. Men cannot successfully compare costs per ton without considering comparative trip distance.

The cost per-ton mile which is assuming greater importance every day is a variable item affected by daily mileage, truck capacity, and load carried and yet how often is the cost per ton-mile quoted without reference to any of these items!

Intelligent analysis, which is only possible with the right kind of cost and operation records, will recognize all these facts, and therefore result in better hauling at lower cost. With a system fundamentally right, accurately kept, and intelligently analyzed, the routing and dispatching of trucks may be successfully undertaken.

The successful routing and dispatching of your trucks for economic operation requires knowledge of truck cost, and its analysis as much as any other features. Routing so plans distribution that the necessary service required may be accomplished according to schedule by the available equipment. Dispatching directs the movement of equipment over routes according to schedule.

Again tabulated experience is of the greatest importance. Yesterday's experience ought to furnish the basis for to-day's plans. That fact is the one big reason for records, and business is beginning to realize that it must have them.

Successful Routing

Successful routing must consider length of haul; material to be moved, and its condition; road and traffic conditions; the delivery point and the limitations and advantages of available equipment. The fact that a truck of 2-ton capacity with a load of 2500 pounds does not compete successfully with a team of oxen with a load of 6000 pounds is no fault of the truck, but simply a failure to rightly apply equipment to the work it can economically handle.

Efficient dispatching must consider the service to be rendered; the time to start the work, and the time it will require; the customers

COSTS PER TON VARY WITH TRIP DISTANCE

COST PER TON.....	\$2.84	\$1.89	\$.57
MILES HAULED.....	15	10	3

AND WITH THE TRUCK CAPACITY

(Based on 30 mile day and one way load.)

TRUCK CAPACITY.....	1½	3	5
COST PER TON.....	\$.90	\$.54	\$.39

COST PER DAY AND MILE DEPEND ON DAILY MILEAGE

DAILY COSTS INCREASE WITH MILEAGE

MILES	COST
20	\$11.65
30	14.34
40	17.03

MILEAGE COSTS DECREASE AS MILEAGE INCREASES

MILES	COST
20	\$.582
30	.478
40	.425

COSTS PER TON-MILE VARY WITH DAILY MILEAGE

DAILY MILES.....	10	30	50
COST PER TON-MILE.....	\$3.47	\$1.81	\$1.48

AND WITH TRUCK CAPACITY

TRUCK CAPACITY.....	1½	3	5
COST PER TON-MILE.....	\$3.95	\$2.40	\$1.81

(Based on 30 mile day and one way load.)

to be served and their location. These items, together with those already suggested for routing, will form the basis for successful truck operation.

Cost accounting, routing and dispatching, to be of the greatest can "Carry the message to Garcia," good, must be directed by one who and so directed, a good cost system

will save hundreds of dollars to truck owners during this year; good routing has saved an added investment which otherwise would have been required to handle increased business; and dispatching has resulted in a transportation service which has saved our country during the past months of reconstruction turmoil.

TO BUILD SOUTHERN POTATO WAREHOUSES

ATLANTA, GA., Feb. 19—The Planters' Products Co., recently organized by strong financial interests in Atlanta and Montezuma, Ga., will build a chain of sweet potato curing warehouses along the lines of the Atlanta, Birmingham & Atlantic Railroad Co. in South Georgia and Alabama. Its stockholders have in mind the double purpose of developing local markets where there are none, and at the same time demonstrating the wisdom of crop diversification to the farmers of the South.

Sweet potatoes are an excellent commercial crop in the Southeast, especially in South Georgia, being, in fact, one of

the most prolific and easily grown crops that Dixie produces. The construction of the warehouses by the Planters' Products Co. is to begin at an early date, and they will be located in all sections where sweet potato growing offers the greatest promise.

The plans of the new company promise important developments of great interest to farmers in the sections where the boll-weevil has necessitated a diversification of crops. These warehouses provide a cash market for this excellent commercial crop. As rapidly as possible the company will extend its operations until sweet potato curing and warehouses are operated in all important sections where this product can be successfully grown in the Southeastern States.

Warehousemen Oppose GOVERNMENT SUPERVISION of Wool Storage

AT hearings held in various cities during February on the Government's proposal to regulate wool warehouses, *Distribution & Warehousing* was represented by correspondents, and the accounts written by several of these—regarding the inquiries held at Philadelphia, Boston, Columbus and Portland, Ore.—are presented herewith.

Strong opposition to Federal supervision of warehouses where wool is stored was entered by a number of the warehousemen who attended these four hearings. A summary of the protests is given elsewhere on this page.

As explained in literature sent to warehousemen and wool growers in advance of the series of hearings, by George Livingston, acting chief of the Bureau of Markets of the Department of Agriculture:

"The central purpose of the Act is to establish a warehouse receipt of unquestioned value, acceptable to bankers everywhere as security for loans. To accomplish this wool warehouses will be licensed and bonded under conditions that will insure the integrity of their receipts and make them reliable evidence of the condition, quantity, quality and ownership of the wool stored therein.

"Warehousemen are not compelled to become licensed under the Act, but it is left to their individual judgment whether or not they wish to be benefited by its provisions. If they can qualify, and if they agree to abide by the rules and regulations and furnish the required bond to the secretary, they may then become licensed. Also competent persons will be licensed to weigh and to grade wool.

"The Act should bring about uniformity of warehouse receipts and standardize warehouse practice so that the operation of every warehouse which becomes a member of the Federal Warehousing System will be uniform regardless of its location."

The hearings held were preparatory to promulgation of final regulations by the Secretary of Agriculture, and warehousemen believe that the final texts will differ radically from the preliminary ones distributed for consideration, owing to the many reasons of protest voiced at the sittings.

One of the points of opposition brought up by warehousemen was that the method of storing required under the tentative regulations would tend toward unlimited confusion within the plant. This particular system of storing is set forth under Section 16 of the United States Warehouse Act and reads:

"That every warehouseman conducting a warehouse licensed under this Act shall keep the agricultural products therein of one depositor so far separate from agricultural products of other depositors, and from other agricultural products of the same depositor for which a separate re-

The Government officials who questioned representatives of the warehouse industry at hearings in Philadelphia, Boston, Columbus and Portland, Ore., were told that

**Warehousemen Who Store Wool Are Not in Favor
of Federal Regulations Under Which
They Would Be Licensed by
Virtue of the United States
Warehouse Act**

BECAUSE

Operating expenses would be increased, as it would be necessary to employ high-salaried graders.

Storage men would be forced to accept wool if offered and if they had space, regardless whether they could obtain better revenue by accepting other commodities.

Burdensome methods of storing and separating customers' wool would be imposed, to the detriment of the warehousemen's business.

The proposed Federal warehouse wool receipt would conflict with the uniform warehouse receipt now in use under the laws of forty-one of the States.

Thousands of classifications of wool grades would result under Federal supervision, with consequently such confusion that banks would hesitate to make loans.

Wool growers' associations which operate warehouses would be prevented from storing and selling wool as organizations.

ceipt has been issued, as to permit at all times the identification and redelivery of the agricultural products deposited; but if authorized by agreement or by custom, a warehouseman may mingle fungible agricultural products with other agricultural products of the same kind and grade, and shall be severally liable to each depositor for the care and redelivery of his share of such mass, to the same extent and under the same circumstances as if the agricultural products had been kept separate, but he shall at no time while they are in his custody mix fungible agricultural products of different grades."

Another point of controversy had to do with rates. A warehouseman by taking out a license to conduct a wool storage plant would automatically place himself in the position where he would have to file with the Bureau of Markets a schedule of his charges for storing. Thereafter he could not increase his tariffs except under the supervision of Federal authorities. To-day a warehouseman can fix his own tariffs for wool handling and storing after working out these tariffs through a system of cost accounting. In this system local conditions in the community where the warehouseman operates are given consideration, and rates which mean fair profits in one city are often equivalent to losses in another. Warehousemen who oppose the proposed licensing regulations apparently look forward to tariffs being fixed by the Government which would be uniform throughout the country. The section of the proposed regulations which relates directly to rates, reads:

"A licensed warehouseman shall not make any unreasonable or exorbitant charge for services rendered. Before a license to conduct a warehouse is granted under the Act the warehouseman shall file with the Chief of the Bureau of Markets a schedule of the charges to be made by him if licensed. Before making any change in such schedule of charges he shall file with the Chief of the Bureau of Markets a statement in writing showing the proposed change and the reasons therefor."

Following are accounts of the Philadelphia, Boston, Columbus and Portland hearings:

PHILADELPHIA

PHILADELPHIA, Feb. 27.—To ascertain the opinions of the owners and operators of warehouses accepting wool deposits, and to hear their suggestions on the tentative regulations proposed for wool warehouses by the Bureau of Markets, United States Department of Agriculture, a hearing was held at the Chamber of Commerce here, beginning this forenoon. R. L. Nixon, warehouse spe-

cialist of the Bureau of Markets, Washington, presided as chairman, and he was assisted by C. Nagel, investigator of wool warehousing, also of the bureau, and A. H. Fast, assistant to the solicitor of the Department of Agriculture.

There were just eleven men at the hearing, besides the Federal officials, and virtually all the Philadelphians who spoke either opposed the proposed governmental regulations or questioned their practicability. Chairman Nixon stated that the attitude of the speakers here was virtually the same as that of the other cities from Chicago Eastward in which these meetings have been held to sound opinion. Those present here were:

Warehousemen Attend

Philip Godley, of Godley's Storage Warehouse, Philadelphia; Thomas D. Sullivan, of the Terminal Warehouse & Transfer Co., Philadelphia; H. J. Kenderdine, of J. Bateman & Co., wool dealers, Philadelphia; J. Stanley Livingstone, Philadelphia representative of Koshland & Co., Boston, wool dealer; Benjamin Bullock, of Bullock Bros., wool dealers; Alex. R. Livingstone, Philadelphia representative of Traugott, Schmidt & Sons, Detroit, Mich., wool dealers; John B. S. Rex, of Rex & Co., Inc., storage warehouse, Philadelphia; Snowden Henry, representing the Merchants' Warehouse Co., Philadelphia; P. R. Taylor, of the Pennsylvania Bureau of Markets, Department of Agriculture, Harrisburg, Pa.; A. C. Bigelow, manager of Swift & Co., Philadelphia, and J. H. King, assistant secretary of the New Amsterdam Casualty Co., surety bonds, Philadelphia.

The Department of Agriculture, the chairman announced, had by mail distributed, among warehousemen and wool dealers, "Service and Regulatory Announcements No. 57," a department pamphlet containing the tentative regulations and also the Warehouse Act as approved on August 11, 1916, and amended July 24, 1919. These proposed regulations had been submitted, he explained, so that warehouse owners and others could consider them as a basis for discussion in the series of public hearings. These hearings were being held prior to the promulgation, Mr. Nixon pointed out, of the final regulations by the Secretary of Agriculture under the United States Warehouse Act.

The chief purpose of the Act, the chairman said, was to establish a warehouse receipt of unquestioned value, acceptable to bankers everywhere as security for loans. To accomplish this wool warehouses would

be licensed and bonded under conditions intended to insure the integrity of the receipts and to make these documents equivalent to reliable evidence of the condition, quantity, quality and ownership of the wool stored.

Those most active in debating the question were Mr. Godley, Mr. Bateman, Mr. Bigelow, Mr. Sullivan and Mr. Livingstone. The general attitude of both the warehousemen and wool dealers was that:

1.—The movement apparently was started by cotton growers of the South who, fearing it savored too much of special privilege, had their representatives include other agricultural products.

2.—The movement was then taken up by the wool growers of the West—men who had no particular association with the Eastern warehousemen and wool dealers.

3.—That the only apparent benefit to the wool growers would be to assure them, through the Government supervision the regulations would entail, that they were not getting the worst of the deal, and that their wool would be assured of an honest handling.

4.—That the warehousemen, dealers and commission men of the East felt that they had had enough Government "supervision and interference" and do not want any more.

5.—The trade in Philadelphia in particular experienced no difficulty in obtaining reasonable loans from bankers and that the regulations proposed could add nothing to their advantage in this or any other respect.

Would Increase Costs

6.—That the operating expenses entailed under the regulations would be a burden—such, for instance, as the necessity for employing licensed graders and weighers, the former especially being extremely difficult to find and then only when a high salary was offered, such pay ranging from \$3,000 to \$5,000 a year.

7.—That the usual grade as named on a warehouse receipt was virtually valueless, as it was not the grade which signified the value in the long run but rather the staple itself; and that the question of estimate would enter in deeply, the estimates of shrinkage often varying from 30 to 35 per cent and from 70 to 75 per cent.

8.—That the ordinary warehouses would not issue a receipt on value, where such varying estimates were made, if the responsibility were placed upon them.

9.—That under the regulations it would be mandatory for a warehouseman to accept wool deposits where he

had space for such deposits, even though other commodities would bring him in more money for storage, and that he must accept wool for storage, whether consigned to him for sale or not.

10.—That the regulations, as at present constituted, call for the separation of customers' specific wool, whereas it was practical only to mix or pool the wool of all customers in storage, according to grade.

Receipt Not Satisfactory

11.—That confusion would arise unless the Act were amended to have the receipt so worded that it would terminate not more than one year or two years at the outside, beyond the license, but that this amendment would have to be by act of Congress and would take time.

12.—That it would be advisable to alter the regulations, if adopted, so as to announce the charge for storage, including grading and weighing, if any, at whatever times the Government should publish the names of the licensed warehousing concerns (which it was announced that the Government proposed to do through bulletins).

13.—That the receipt proposed by the regulations apparently conflicted in some particulars with the Uniform Warehouse Receipt, which is a law in forty-one States—the exceptions being Georgia, South Carolina, Mississippi, Indiana, Arizona, Kentucky and New Hampshire.

Against Uniform Rates

14.—That there be a uniform charge for storage among all warehouses, and it was indicated by some of those present that this would be objectionable and impractical.

Mr. Godley pointed out that many wool growers held to the fallacy that they could go directly to the mills with the wool from their ranches; that, on the other hand, the wool grower is a farmer and the wool dealer and the warehouseman are in close touch with the mills and that they will always be necessary for the proper marketing of the clips.

Mr. Livingstone said growers feared dealers who, once the wool had arrived at the warehouses, would yield to the temptation of acting in the dual capacity of both commission man and buyer, and would purchase the wool themselves and charge a commission for so doing. He thought that the government supervision, possibly, under the regulations, would reassure the grower that this would not be the situation.

Mr. Kenderdine stated that he could see no advantage to the dealer in the proposed regulations, and that

to his mind it seemed more prejudicial to the dealer than otherwise. In Philadelphia, particularly, he said, it would be of no practical advantage in financing a dealer.

Specialization Desired

Chairman Nixon, in answer to a question, stated that the Government would not assume the responsibility for the grading of wool and added that he thought perhaps the great expense complained of by some present—that of employing graders for each warehouse—could be obviated by having one, or perhaps two, expert graders who would be paid a fee for their common services by the entire group of warehousemen. He asserted that the need was great for specialized warehouses, such, for instance, as for agricultural, non-perishable products.

"Federal Espionage"

Mr. Godley especially took the stand that the warehousemen did not like the idea of Government inspection, which by some was considered in the light of Federal espionage on business. They had enough to do, he declared, in making out their necessary State reports and their income taxes, without having to be bothered with making statements, when called upon to do so, as under the proposed regulations.

Mr. Livingstone suggested that it would be better to have a grading charge separate from the storage charge.

Mr. Nixon said the regulations do not cover anything now, as drawn up, but grease wool, but thought the rules might be changed to include scoured wool, or processed wool. At any rate, he stated in answer to queries, the wool placed in a warehouse would have to be, under the regulations, suitable for storage and not in such condition as might be injurious to the warehouseman's other stock. He admitted that, under the rules, the warehouseman would have no choice, so long as he had reserve space, but to accept wool for deposit, so long as wool was offered, regardless of whether he had a chance to accept other commodities paying him better for storage.

Final Hearings

Beginning on March 1, final hearings on the proposed rules and regulations to be issued under the warehouse act, will be held at which time the various suggestions and objections heard at the series of meetings will be reviewed, with the plan of having rules equitable to all.

BOSTON

BOSTON, Feb. 25.—Boston wool warehousemen do not take kindly to the tentative regulations for wool warehouses, as suggested by the Bureau of Markets of the U. S. Department of Agriculture.

That fact became quickly apparent at the hearing to-day before representatives of the Bureau of Markets at the rooms of the Boston Wool Trade Association. It was the ninth hearing by this Bureau during the current month, and the final one will be held at Washington, March 1.

The hearing to-day was conducted by R. L. Nixon and C. Nagel of the Bureau of Markets, and A. H. Fast, Solicitor of the Department of Agriculture. Mr. Nixon acted as chairman. There were comparatively few wool men present, but there was no doubt as to their feeling against the proposed effort to standardize the grading of wool. The Bureau of Markets representatives listened to blunt statements by the Boston wool men, the substance of some of these remarks being that if the Government would keep out of private business there would be fewer taxes to pay; that in war time the Government took over the wool business, found itself unable to handle it and was forced to call in wool men to conduct the business for it; and that now, in peace time, the Government purposed again making an effort to conduct the industry, or to direct how it shall be run.

Standardization Impossible

One of the Boston men who testified to-day declared it was a physical impossibility to standardize the grading of wool, as there were no two grades alike. Another speaker said the British Government had tried this standardization of wool grades, and in Australia had started out with 800 grades. While there are only six States in Australia and they are fairly uniform, despite governmental efforts the number of grades grew to 1,100 different classifications, this witness asserted.

Here in the United States, continued this speaker, there is a difference in every State and instead of 1,100 classifications there would be nearer 11,000 of them. Under governmental classification of wool grades no bank would know how to loan upon wool unless it had an expert wool grader in its employ. He said that New York lost its grip upon the wool trade because it was not

practical in its handling of the business.

Chairman Nixon said he would take as the consensus of opinion of the Boston wool men the statement that it is impracticable to standardize the grading of wool throughout the country, unless there was objection to his doing this. No objection was manifested.

Uncle Sam, Wool Owner

A member of the executive committee of the Boston Wool Trade Association said that during the war he was chairman of the committee which took over, for the Government, scoured wool worth more than \$100,000,000. "Time and time again," said he, "when I rebelled against the Government taking certain wool, the more I rebelled the more I was ordered by Government officials to take such wool. That is why at present the Government has this wool still on its hands.

"There is no standard grade for wools and there never will be any such standard. As handled here—and Boston handles two-thirds of the country's supply—the warehouses are owned or controlled by the wool men and they take in as much as they can grade. When the wool comes in a decision must be made as to whether it is to be scoured, graded or carbonized and how best to get the most out of it.

"Under these tentative regulations the Government starts in by saying the warehousemen must keep each man's clip separate. That has been found to be impossible, and during the war they gave us the privilege of combining all of the same grade in one parcel. We do not want the Government to get into anything more than it has now, and by refraining it will keep out of a lot of trouble."

It was pointed out to the Washington officials that to be a real wool grader requires from five to fifteen years of experience to enable a man to become trusted in the trade, and it was doubted if the banks would loan upon negotiable wool if a new system of grading were introduced in the market.

Chairman Nixon asked how if there was no standard of wool grading the wool could be graded at all. This question created a laugh. One man answered that he grades wool to suit the ideas of the firm he is to sell the wool to; or in other words, that each large purchaser has his own ideas of grades and the grading is done to suit his demands. It is an individual standard, as it were.

Chairman Nixon was asked point blank if he had made up his mind to

put out regulations for standardization of grades. He said in answer that he was not so minded and had no such authority, but he felt that some sort of standard regulations might be put out by the Government and that it would be left with the wool men to accept or to reject them, as they say fit.

One speaker said that in Canada 45 per cent of the clip has been standardized as to grades. Canadian wool reaches the American market, and the speaker was asked, in this connection, what effect the grading had on the marketing of Canadian wool here. He was answered by a wool man, who said that Boston wool merchants would rather sell almost anything else than Canadian wool of the type referred to. The first speaker asked if it were not true that Canadians had secured a premium of 20 per cent.

"Some grades of it may have," was his answer, the speaker adding that the Canadian wool was not graded close enough to suit this market.

Other speakers made the point that they could see nothing in the proposed regulations for the wool merchants except extra restrictions and responsibilities, and that only an imperative demand from customers would make them apply for a license under the suggested regulations.

Among those present at the hearing were George S. Lovejoy, John L. Nichols and Chester B. Carruth, all of the American Warehousemen's Association; R. M. Haywood, William H. Butler, R. M. Eastman, H. E. Haslett, William D. Hutcheson, O. F. Timlin, Charles N. Fitz, E. Y. Neill, Kenneth Hutchins, Fred L. Wallace, A. M. Williams, Frank Driscoll, Claude H. Ketchum, G. W. Vaughan, Charles P. Nunn, Robert L. Studley, John R. Boudrey, R. J. McFall, George W. Blunn and George B. Stebbins.

COLUMBUS

COLUMBUS, Feb. 2.—The hearing arranged by the Bureau of Markets of the U. S. Department of Agriculture relative to the storing of wool was held at the Deshler Hotel here to-day with about twelve men present. The hearing was under the direction of Messrs. Nixon and Fast.

John M. Wilber, of Marysville, O., chairman of the executive committee of the Ohio Sheep and Wool Growers' Association; H. S. Ballard, attorney for that organization, and R. A. Hammond, in charge of the warehouse of the association, were among those who attended the hearing: Others were

members of the association and individual wool producers.

The Bureau of Markets representatives explained the provisions of the regulations affecting warehousing. According to Mr. Ballard the Ohio association could not operate under these, as suggested Federal rules provide for the storage of wool by individual owners. The policy of the association is to store, mix and sell wool as an organization.

Representatives of the Ohio association made a number of suggestions designed to change the effect of the regulation in a way which would permit co-operation with the Government.

The Federal representatives left immediately after the Columbus hearing for St. Louis and other western points, and will be back in Washington, D. C., about March 1 for the final hearing there. Meanwhile the officers of the Ohio Sheep and Wool Growers' Association will file written suggestions at Washington. John M. Wilber, chairman of the executive committee; H. S. Walker, of Gambier, secretary of the association, and Mr. Ballard, planned to go to Washington later in the month to investigate the situation and to confer with representatives from other localities.

Generally speaking, Ohio wool growers and warehousemen do not approve the regulations, on the ground that apparently it would prevent the association from functioning in its usual manner. The association has a warehouse in Columbus where a considerable quantity of wool is in storage.

PORTLAND

PORTLAND, ORE., Feb. 16.—The workings of the United States warehouse act and proposed regulations to be issued by the Secretary of Agriculture, as intended to affect the handling of wool, were explained at a hearing at the Multnomah Hotel to-day.

The hearing was presided over by R. L. Nixon, federal specialist in warehousing, and was not largely attended, only one warehouseman, a representative of the Columbia Basin Wool Warehouse Company, and three wool buyers being present.

The proposed regulations in regard to grading of wool were strongly opposed by the Portland men, who declared that while the plan might work well in the Eastern fleece sections, it would be entirely impracticable in the Western territory.

(Concluded on page 50)

BOSTON WAREHOUSES PROTEST R.R. RATES

Federal Inquiry Into Charge that Carriers Have Discriminatory Switching Tariffs on Wool

BOSTON, Feb. 28.—What was apparently only a local controversy between the railroads and the Boston Wool Trade Association over switching charges to various warehouses has now developed into a New England issue. This was brought out to-day when it was learned that interveners were filed by the Chamber of Commerce and the New England Traffic League in the switching case being heard before United States Interstate Commerce Commissioner Joseph A. Eastman and Examiner Woodward in the Federal building.

The hearings were begun on February 24 when Harry A. Davis, transportation manager of the Boston Wool Trade Association, was on the stand. Mr. Davis pointed out the unfairness of the charges made for switching in the Boston district. He pointed out that it cost 17 cents per 100 pounds for switching from Boston to Roxbury, which is only three geographical miles; but that, under the method in vogue the commodity is routed over a distance of seventeen miles. Also he showed that from Boston to Hyde Park, instead of going through the South Station, which is possible, the wool is sent out to Framingham and back. This is a distance of at least twenty-five miles.

While Mr. Davis did not testify on this point, it is known that, because of the alleged discriminatory charges, many loads are now sent by motor truck from one warehouse to another at a cheaper rate.

The big associations claim the charges are exorbitant and discriminatory against warehouses not having main line connections. Mr. Davis backed up his statements with maps and charts showing that, compared with Chicago, Detroit and elsewhere, the Boston rates are too high. He asked that the metropolitan district be defined as comprising warehouses in Boston, Cambridge, Chelsea, Everett and Somerville. He said that there were more than twenty wool warehouses in Charlestown, East Boston, South Boston and Atlantic avenue, Boston, all kept within a small area because of the excessive switching charges. He said the Boston & Albany Railroad was the most lenient and the New York, New Haven and Hartford the most discriminatory. The Union Freight Railroad in Boston, he declared, had a monopoly of the switching and was the principal factor in the rates.

At the second hearing on Wednesday Mr. Davis explained that in some instances the switching charges between same points in the switching district have three different charges for identically the same service. For instance, from East Cambridge to the Boston & Maine Railroad at East Somerville, the Boston & Albany Railroad charges 30, 40 and 60 cents per ton, the charge depending upon the ultimate destination

of the car. The charge from the Boston & Maine to the New Haven is 3½ cents on import traffic and 5 cents per 100 on domestic traffic.

Mr. Davis also stated with assistance of exhibits filed that in many instances the switching charge in the Metropolitan Boston district is in many cases higher than the cost of transporting a car of wool to New York. He explained that in some cases the charge for switching in the Boston district is greater than the cost of transportation of the same car to Philadelphia.

Some idea can be obtained, Mr. Davis stated, when various routings are explained. For instance, the Cambridge, Boston & Albany station is about four miles from the Cambridge, Boston & Maine station. Yet a car of wool has to travel ninety-three miles to be sent from one of these stations to another, except in cases where the shipper expressly stipulates the shipment, when it may be done in four miles. Unless so stipulated, the shipment will be made up around Worcester and back again. Likewise a shipment from Brighton on the Boston & Albany to Harrison Square on the New Haven, a distance of nine miles, is sent via Framingham, a distance of fifty-nine miles.

The shippers are asking for a \$5 charge for intra-terminal movement over one road and \$10 per car for movement over two roads, and the absorption of Boston switchery from one road to another on New England business, the same as is now done on business coming from points west of the Hudson River.

An intervener was filed to-day by H. L. Pease, secretary of the National Association of Box Manufacturers in behalf of the G. G. Page Box Company of Cambridge.

Mason Manghum is representing the Wool Trade Association and W. H. Chandler the Chamber of Commerce.

Mr. Chandler and Mr. Manghum testified the next day and they said it had become a New England affair now as shippers all over the six States as well as those of Boston were vitally interested. He said Boston business men realized that the future depended on the successful determination of these cases.

Wilmington Needs Warehouses

WILMINGTON, DEL., Feb. 24.—The Chamber of Commerce reports a large number of inquiries for industrial storage for warehouse space and many well-known and nationally advertised companies have been keeping space in which to store from two to five or more carloads of their merchandise for quick distribution to dealers both in this city and surrounding neighborhoods. The Chamber at its annual meeting recently strongly recommended new industrial and warehouse buildings and made a special appeal to its members to get behind this project as one of the means of increasing the scope of Wilmington's business.

STUDY COST ACCOUNTING "Know Your Business!"

NEXT MONTH

An article by E. Stanley Grant, traffic and distribution manager of James B. Sipe & Co., Pittsburgh, telling how that company revolutionized its system of handling warehouse stock reports.

Every traffic manager and every warehouseman will want to read it.

ANNOUNCEMENT MADE OF A. W. A. COMMITTEES

PITTSBURGH, Feb. 16.—Announcement of the following committees of the general merchandise sub-division of the American Warehousemen's Association is made by Charles L. Criss, general secretary:

Uniform forms and practices—A. H. Greeley, Cleveland, chairman; C. W. McDonald and A. H. Millward, Chicago; L. M. Chamberlain, Minneapolis; J. R. Behrens, New Orleans; Charles N. Fitz, Boston; Francis D. Godley, Philadelphia; M. R. Matthews, Charleston, W. Va.

Membership—S. M. Woodson, Kansas City, Mo., chairman; F. B. Abels, Buffalo; R. C. Griswold, Chicago; W. L. Hinds, Des Moines; E. Groull, Detroit; F. C. Tregau, Duluth; Walter E. Eggers, Galveston; Frank E. Powell, Indianapolis; H. E. S. Wilson, Hoboken, N. J.; H. L. Halverson, Minneapolis; Edwin Morton, New York City; Francis D. Godley, Philadelphia; A. V. Mason, Pittsburgh; F. R. Long, St. Louis; C. C. Stetson, St. Paul; S. M. Haslett, San Francisco; L. B. Magid, New Orleans.

Mr. Criss announced appointment of the following committees of the cold storage sub-division:

Laws and legislation—Frank A. Horne, chairman, New York City; Floyd M. Shoemaker, Elmira, N. Y.; R. H. Switzler, St. Louis; Homer McDaniel, Cleveland; F. G. Wilkins, Washington, D. C.

Membership—George H. Kittredge, chairman, Columbus; Gardner Poole, Boston; C. E. Eells, New York City; J. A. Mooney, Philadelphia; J. R. Shoemaker, Elmira, N. Y.; G. M. Weaver, Detroit; Thomas A. King, Chattanooga; W. G. Eisenmayer, Los Angeles; S. J. Drapekin, New Orleans; M. C. Cummings, Chicago.

Reducing Fire Menace

NEW ORLEANS, Feb. 18.—The Appalachian Corporation of Louisiana has contracted for the installation of a modern sprinkler system in its warehouses, at a cost of \$65,000. This is reported to be the first of a series of improvements contemplated, aggregating an expenditure of \$600,000.

New Cleveland Storage Company

CLEVELAND, Feb. 14.—The Fidelity Storage Co. has been chartered with a capital of \$10,000 by F. E. Wendling, E. J. Rice, J. S. Thrasher, K. Lawrence and E. P. Moffatt.

BEGINNING

IN APRIL

"STUMBLING BLOCKS"

A series of letters from warehousemen and traffic managers discussing their common problems. (Cartoon by Roche.)

TRANSPORT CHAMBER FORMED IN OREGON

PORTLAND, Ore., Feb. 18.—Promotion of highway transport facilities in the organization and development of transportation in all its phases, and concentration of effort for the general upbuilding of the transportation business, are among the aims of the Northwest Chamber of Transportation, which recently was organized in this city, with headquarters in the Corbitt Building. S. A. Rasch, Commissioner of Public Service, is president of the Chamber, and R. M. Dunton is executive secretary in charge of affairs. Other officers are L. J. Sparks, vice-president; J. M. Parke, treasurer, and R. F. Dunton, A. C. Luttert, F. I. Gollehur, and W. H. Warrens. Following are the purposes of the organization as announced in its platform:

1. To promote highway transportation.
2. To assist in the organization of complete transport facilities through development of rail, water, highway and aerial transportation.
3. To co-ordinate the interest of existing transport facilities.
4. To study and propagate the different methods of handling freight.
5. To standardize by cost keeping methods automotive transportation.
6. To promote such legislation and legislative measures are deemed necessary as essential to the development of transportation compatible with public interest. To promote the building and extension of a uniform system of highways for military and commercial requirements.
8. To promote the standardization of highway markets and travel directions.
9. To publish and maintain current shipping information.
10. To consider such other matters relative to transportation as may at the discretion of the chamber be deemed consistent with the purpose of this organization.

Harrison Transportation Service

DES MOINES, IOWA, Feb. 16.—The Harrison Transportation Service was organized here to-day and will specialize in the transportation of building materials. M. R. Harrison is manager, and with him are associated Gaylord E. Gray, secretary of the Iowa Sand and Gravel Producers Association, and E. L. Hill and E. M. McDonald. A fleet of seven trucks will be placed in service at once and additions to the fleet will be made as business warrants.

Army Warehouse Space Released

NEW ORLEANS, Feb. 4.—Nine hundred linear feet of wharfage and 50,000

square feet of storage space at the Army Supply Base here will be placed at the disposal of the barge line operated by the Mississippi-Warrior River section of the Division of Inland Waterways of the United States Railroad Administration, it became known to-day. The War Department has authorized this in response to application filed by the Director-General of Railroads.

Japanese Have Warehouse Capital

HOUSTON, TEX., Feb. 10.—The Japan Cotton Trading Co. of Osaka, Japan, which has its American headquarters in Fort Worth, is reported to have completed arrangements to invest \$500,000 for a warehouse and compress here, to be erected in time to handle part of next season's crop.

TAX-PAID LIQUOR IF NON-BEVERAGE MAY BE STORED IN WAREHOUSES

WASHINGTON, D. C., Feb. 20.—An important interpretation of a warehouseman's privilege under Federal legislation to enforce prohibition was made to-day by John F. Kramer, Prohibition Commissioner. To a correspondent of *DISTRIBUTION & WAREHOUSING*, Mr. Kramer said:

"Persons who have obtained permits enabling them to possess intoxicating liquor for non-beverage purposes may store tax-paid liquor received by them, in commercial warehouses; and the proprietors of such warehouses are not required under the regulations to obtain a permit. The premises where such liquor is to be stored should be set forth in the permit obtained by the owner of the liquor, and the liquor may be treated in the same manner as though stored in premises owned by him."

Would Limit Height of Loads

BOSTON, Feb. 21.—A bill to limit the height of loads on motor and horse-drawn vehicles to 11 ft., and to include horse-drawn vehicles in the present limit of 28 ft., which is now the truck and load length, was put into the Massachusetts Legislature by the outgoing Highway Commission. It was heard the other day, and Commissioner John N. Cole, the new head of the department, came out and took the side of the truck and horse-driven vehicle owners, saying that the measure should not be passed now until he had been given an opportunity to look into the merits of it.

STUDY COST ACCOUNTING

"Know your business"

BILL WOULD CREATE LIQUOR WAREHOUSES

Measure Introduced in Senate at the Request of Treasury Department—Insurance a Feature

WASHINGTON, Feb. 19.—If a bill introduced in the Senate to-day by United States Francis E. Warren of North Dakota is enacted by Congress, the United States Government will go into the warehouse business as one method of enforcing national prohibition. As chairman of the Senate Appropriations Committee, Mr. Warren presented his measure at the request of the Secretary of the Treasury, whose agents have the task of guarding the approximately 59,000,000 gallons of whiskey which, the property of manufacturers, is stored in bonded warehouses. Senator Warren's bill provides in part that:

The Commissioner of Internal Revenue shall with the approval of the Secretary "establish by purchase, rental, condemnation, or other means," warehouses to be known as Government warehouses "for the storage of distilled spirits, at such places and of such capacities as he may deem necessary." The measure was referred to the Committee on Finance, as it provides for expenditures which include \$1,000,000 for guarding the liquor in bonded warehouses.

In the prohibition debate after Senator Warren had introduced the bill it developed that the Government has a financial interest amounting to \$6.40—representing the Federal tax—on every one of the 59,000,000 gallons in the bonded warehouses. Under the proposed legislation, the Commissioner of Internal Revenue could, if he so desired, cause the removal of liquors from bonded warehouses to Government warehouses, and in general the collection of taxes due the Government would be facilitated. Liquors stored in the Government storage plants would be insured against loss, with the costs of insurance to be borne by the owners of the liquors. Suitable equipment for the bottling of spirits would be established at each Government warehouse.

Louisville Company Expands

LOUISVILLE, KY., Feb. 10.—The Rochelle I. Smith Company has purchased two lots on Broadway near Eighth Street and will erect a modern fireproof warehouse, 66 x 128 ft., at an estimated cost of \$75,000. The company is engaged in the storage, moving and packing business and has outgrown its present quarters. The new site is centrally located.

Higher Los Angeles Rates

LOS ANGELES, Feb. 13.—An increase of 12½c. a ton for labor charges was granted a number of Los Angeles Warehouse companies by the State Railroad Commission to-day. The order was issued by the Commission's San Francisco office. The old rate was 25c. a ton, grain excepted, as they are handled on a separate seasonal contract.

HANDLING MACHINERY MANUFACTURERS MEET

Warehouse and Terminal Conditions Discussed in Relation to High Costs of Distribution.

NEW YORK, Feb. 27.—Evidence of daily increasing interest on the part of both manufacturer and user of labor-saving devices was illustrated by the big attendance at the convention of the Material Handling Machinery Manufacturers' Association held here yesterday and to-day.

The address of F. B. Fitch, president of the Motor Terminals Company, attracted attention from railway officials. Mr. Fitch told about the practical application at Cincinnati of electric overhead traveling cranes and electrically operated hoists, in combination with demountable motor truck bodies or containers, used with motor trucks, for handling all interline L. C. L. freight interchange between all of the railroads. He said this offered an opportunity for the railroads of the United States to immediately change over their methods of handling L. C. L. freight at all large cities without the need for vast appropriations for additional freight sheds or for union freight stations, etc.

Captain F. T. Chambers, C. E. C., United States Navy, presented some authoritative and illuminating figures and facts designed to show that the exporters of the United States are faced with the necessity of demanding that port facilities and the railroad handling facilities at the various terminals in the United States must be improved immediately, or it will be impossible for the manufacturers in the United States, on account of the excessive handling charges at the railroad terminals and shipping terminals to carry on a successful foreign trade.

Captain Chambers clearly showed that his investigation of "Freight Handling in England as Applied to our Home Problem," is a subject which every manufacturer and particularly every exporter, is glossing over in his mind on the idea that it does not concern him, while if he will investigate all of the facts, the manufacturer will find that his greatest concern, (now that he is producing in large quantities at a very low and most economical cost), should be to see that the transportation and handling costs on his goods from the time they leave his factory and the time they reach the destination is minimized by the same economical handling methods as he uses in production.

Captain Chambers defined by illustration how the cost to the ultimate consumer for foreign shipments is increased, not in cents, but by amounts in dollars per ton due to the present inefficient methods throughout the United States for handling freight and goods at transfer points and from cars to storage warehouses and pier sheds and from pier sheds into storage and steamers.

On the other hand, he declared, every producer of every product which is im-

ported from a foreign country into the United States should be interested also in this problem as to the per cent the antiquated methods in this problem, for handling materials, at terminals and at all of our cities throughout the country are a direct tax which increases the high cost of living.

It was brought out at the convention that an extensive inquiry among potential users of plant transportation equipment (industrial haulage devices, such as trucks, tractors, conveyors, etc.) showed the following: Classifying the answers into two divisions:

1. Those received from users of iron, steel and metal machinery in the industrial field, and

2. Those received from the textile field, which included warehouses and distribution.

The investigation showed that 30 per cent of the manufacturers of the iron, steel and metal working machinery in the industrial field could mention no manufacturer of plant transportation

equipment; and that 57 per cent of the manufacturers in the textile field, including warehouses and distribution could mention no manufacturer of plant transportation equipment.

George B. Green, general manager of the East Waterway Dock and Warehouse Company, Seattle, Wash., recited numbers of instances in "Warehouse and Terminal Operating" as practiced by his company at Seattle, which disclose savings effected through the use of mechanical handling methods. A reactive feature of his paper was his acknowledgement that his company had been compelled to design and build a stacking and lifting equipment to take care of their problem because of the lack of interest on the part of the manufacturers to see that such machinery was needed, or due to lack of properly advertising their product. He stated a case particularly in the use of the tiering machine, which they had designed for themselves, which effected a saving of over 50 per cent in the handling costs.

A Lesson in Economics

One Way to Hit the H. C. of L.

BOOSTING the Price

HORSE OWNERS TAKE NOTICE—After January 1, 1920, there will be an increase of 25 per cent in the price of horseshoeing.
Kenosha Horseshoers.

BUSTING the Price

OPEN FOR BUSINESS—Team Owners' Blacksmith Co., in alley opposite O'Donnell coal office on Charles Street.
Kenosha Transfer, Truck and Team Owners' Association.

KENOSHA, WIS., Feb. 5.—The well known high cost of living, this time affecting the expense of having shod the horses owned by members of the Kenosha Transfer, Truck and Team Owners' Association, has been hit a terrific wallop under the chin. The transfer industry has opened its own co-operative blacksmith shop here, the purpose being to frustrate an attempt by local "smithies" to charge \$1 per shoe, or \$4 per horse, for manuring the hoofs of these animals.

It was only about three months ago that the blacksmiths of Kenosha raised the price of shoeing to \$3 a horse. Then, effective Jan. 1, the cost was boosted another dollar. This aroused the ire of the members of the transfermen's association, and the blacksmiths' notice of advanced price which appeared in a local newspaper was met by a newspaper retort announcing the organization of the co-operative shop. The latter is being operated on the "cost plus" basis, and it is estimated that the owners of more than 100 Kenosha horses are throwing their patronage its way.

Motor Truck Distribution

WALLA WALLA, WASH., Jan. 17.—A motor truck freight line establishing connection between Walla Walla and the Columbia River Steamboat Line has been established to carry produce from this section to Pasco and Yakima. Other points to which the auto lines will run are Pendleton on the south, and Lewiston, Idaho, through Waicsburg and Dayton, Wash. In thus connecting Portland with the innermost points of the Walla Walla and Touchert Valleys, Walla Walla will be the central distributing point.

Additional Storage Facilities at Colon

American Consul Julius D. Dreher reports that the Colon Electric & Ice Supply Co. is about to double its capacity in order to meet the increasing local demand for ice and electric power, heat and light. In this connection, it is planned to construct an addition to the present plant for the cold storage of meats, fruits and vegetables. The new building will also have facilities for the care of silks, tobacco and tobacco products, which are frequently damaged by exposure.

NEW ORLEANS FORMS INFORMATION BUREAU

Cost Accounting, Tariff Basing and
Standardization of Forms
Will be Studied

NEW ORLEANS, Feb. 12.—The New Orleans Warehousemen's Bureau of Information, Inc., is growing rapidly in membership, and promises to rapidly become a factor in the business here. The prime object of this organization, which was formed at a meeting in December, is to further the development of the export, import and distribution possibilities of the Port of New Orleans. The bureau will have active secretaries who will at all times furnish information relative to storage facilities and distribution of the Board.

The bureau is one of a series of similar organizations which are being created in warehouse communities throughout the country to co-operate with the Central Bureau of the American Warehousemen's Association in working out cost accounting, bases for making tariffs, and standardization of forms and practices.

The officers elected for the first year include Louis Magid, president of the Appalachian Corporation, president; W. H. Douglas, president of the Douglas Service Corporation, vice-president; J. E. Behrens, president of the United Warehouse Corporation, treasurer; Charles H. Gross, secretary of the Appalachian Corporation, secretary. The offices of the new organization are at 412 Gravia Street.

At the organization meeting Mr. Magid pointed to the part played by warehousemen in New Orleans in building up the commerce of the port. "A port," he said, "if it is to secure commerce, must have these three essentials:

"1—Water transportation.

"2—Connection with inland railroad transportation.

"3—Ample warehouse facilities.

"The latter is the main thing to make the commerce of the port economical and possible.

"New Orleans is unusually fortunate and easily accessible. It is situated at the mouth of the greatest river in the world. It has direct railroad connection with both East and West. It is at the mouth of a drainage system comprising 22 states of the Union, which comprise 53 per cent of the population of this great country, and the principal manufacturers are located within that territory. The raw material in that territory is not only capable of sustaining the production and necessities of the United States, but nearly for the world at large. If only the various agencies in New Orleans, including New Orleans's new organization, the Warehousemen's Bureau of Information, will all work in harmony, within the next ten years the Port of New Orleans should equal in handling cargo in volume the Port of New York."

It will be one purpose of the new association to assist in co-operating with other agencies, such as railroads, river transportation interests, financial industries, and the New Orleans Chamber of

Commerce, in making known to manufacturers and distributors of the Mississippi Valley the warehouse facilities at New Orleans.

WAREHOUSE CHAIN TO BE REORGANIZED

ATLANTA, GA., Feb. 20.—Richard F. Willingham of Macon, Ga., has purchased the entire holdings, including warehouses, of the Atlantic Compress Co. in the States of Alabama, Georgia and Florida, for \$1,450,000, purchasing the properties from the several railroads which controlled that organization. About \$250,000 will be expended in the improvement of the properties in Atlanta, which include three compresses and ten acres of land, and a considerable sum will also be expended in similar improvements of other property holdings in other cities.

The company is to be completely reorganized at once under the name of the Shippers' Compress Co., with \$3,000,000 capital. The negotiations leading up to the sale lasted for several days, the railroads owning the company having granted a thirty-day option some time ago to the Union Warehouse Corporation of Boston, Mass. This option was never exercised and Mr. Willingham purchased the company outright.

Cotton compresses involved in the deal are located in Atlanta, Albany, Augusta, Athens, Columbus and Savannah, in Georgia; Dothan, Troy, Montgomery and Opelika, in Alabama, and Pensacola, Fla. The railroads owning and controlling the old Atlantic Compress Co. were the Southern, Central of Georgia, Georgia Railroad, Atlanta, Birmingham & Atlantic, Macon, Dublin & Savannah, Seaboard Air Line, Atlantic Coast Line, Atlanta & West Point, and the Georgia Southern & Florida.

The deal was consummated in Atlanta at a meeting of representatives of the various railroads with Mr. Willingham.

OPPOSE GOVERNMENT WOOL SUPERVISION

(Continued from page 46)

In support of their contention, they explained that the buying season in the Oregon-Idaho-Washington territory is very short, all the buying being done in three months. If they had to buy the wool sacked according to grades, as proposed by the regulations, they declared, the labor of grading wool would be enormous and would string out the buying season over a whole year, which would be out of the question.

Such a lengthening of the buying season under the proposed rules would be inevitable, they maintained, because this territory produces so much wool, and of so many different grades. The wool output for Oregon alone totals 12,000,000 lb. per year.

They said that although impracticable for the territory as a whole, the grading regulations might be feasible

DOCUMENT WAREHOUSE FOR "BIG BUSINESS"

In a New York Structure Will Be
Stored Valuable Papers of
Downtown Firms

NEW YORK, Feb. 8.—A novel departure from the ordinary uses of warehouses is to be made by the Terminal Warehouse Co. at 17 South Williams Street, in the erection of a great loft building for the storage of documents. It is to be known as a document warehouse, and seven of its eight floors will be exclusively devoted to the storage of papers which are of the utmost value to the large downtown business firms.

Due to the great demand for office space, many of the financial and insurance companies, in addition to other interests, have been obliged to curtail the room formerly given to the filing of these papers. The need for a well appointed fireproof structure adapted to document storage has been recognized for some time. The document warehouse covers a plot at 25 to 31 South William Street, running through the block to Stone Street, a frontage of more than 84 ft., and having an average depth of 80 ft.

The Terminal Warehouse Co. will occupy all of the ground floor for its offices, and the remaining seven floors will be used for storage purposes. Instead of cutting up the floors for different tenants, it is planned to rent a single floor to one tenant, and most of the space already has been rented. Each floor contains about 6500 sq. ft. The documents will be stored on racks, similar to those used in libraries, and while the tenant will supply their own racks, they will be required to conform to fireproof conditions. Arrangements have been made so that certain space may be set aside for consulting or library rooms. It is expected that in addition to the libraries or custodian of documents, there will be from five to twenty persons in charge of the papers on each floor, so there will be filing cabinets and index systems for quick access to any paper.

This novel structure will be ready for occupancy by May 1. It will be a building of architectural beauty. The front will be red brick with limestone trimmed on the ground floor. The row of arch windows on this floor, which is repeated on the top story, is suggestive of the Italian renaissance style used so much in the palaces and imposing buildings of that period.

Officers in the company are John H. Lynch, president; C. H. Clarke and G. H. Banner, vice-presidents, and W. J. Doremus, secretary. Among the trustees are Joseph P. Grace, P. A. S. Franklin, William Emelen Roosevelt, James A. Stillman, James H. Post, George H. Church, George Doubleday and Walter B. Dastard.

so far as Willamette Valley wool is concerned. This product from the Willamette Valley in Oregon is very limited in quantity and is virtually all of the same grade.

A. W. A. STRENGTHENED BY 15 NEW MEMBERS

American Dock Company Is a New- comer to Ranks of National Body

PITTSBURGH, Feb. 16.—The following new members have been elected to the American Warehousemen's Association, it is announced here by Charles L. Criss, general secretary:

American Dock Co., New York City, affiliating with merchandise sub-division. Has engaged in warehousing and wharfage in and about New York harbor for nearly 50 years; has 42 houses of various types, with direct rail connections. A. B. Pouch is president.

American Household Storage Co., Buffalo, affiliating with household goods sub-division. Was incorporated in 1903 and has two warehouses, one 40,000 sq. ft. non-fireproof and one 400,000 sq. ft. fireproof. The president is H. J. Wilkes.

Blanchard Storage Co., Inc., Rochester, N. Y., affiliating with household goods sub-division. Arthur S. Blanchard is president.

Currier-Lee Warehouse Co., Chicago, affiliating with merchandise sub-division. Operates warehouses covering 235,000 sq. ft. on Chicago, Milwaukee & St. Paul and 150,000 sq. ft. on Chicago Junction Railway. George B. Currier is president.

Merchants Transfer & Storage Co., Davenport, Iowa, affiliating with merchandise sub-division. Engaged in warehousing, transferring, hauling of freight and general teaming and trucking, with warehouses having trackage. Joseph Schick is president.

Murdoch Storage & Transfer Co., Pittsburgh, affiliating with household goods sub-division. Has been engaged for six years in storing and handling household goods. Operates two warehouses. D. V. Murdoch and E. A. Murdoch are partners.

New Orleans Cold Storage & Warehouse Co., Ltd., affiliating with cold storage sub-division. Plants are for cold storage only. A. K. Mackie is president.

Ontario Warehouse Co., Chicago, affiliating with merchandise sub-division. Operates warehouses with total of 195,000 sq. ft., with trackage. Charles A. Atwood is president.

Perky Bros. Transfer & Storage Co., Kansas City, Mo., affiliating with household goods sub-division. Engaged in handling, transferring and forwarding household goods, with a six-story fireproof warehouse covering 45,000 sq. ft. D. J. Perky is president.

Redhead Storage Co., Cleveland, affiliating with household goods sub-division. Warehouses occupy 10,000 sq. ft. Mead Redhead is president.

Southern Bonded Warehouse Corp., Petersburg, Va., affiliating with the merchandise sub-division. Has been in business since 1905 and occupies warehouses with Atlantic Coast Line and Norfolk & Western track connections. Is engaged in general merchandise storage, forwarding, etc. S. M. Green, Jr., is president.

Sovereign Fireproof Storage Co., Rockford, Ill., affiliating with the general mer-

chandise sub-division. The company is owned and managed by C. E. Sovereign and operates two warehouses covering 80,000 sq. ft., with trackage.

Tripp Warehouse Co., Indianapolis, affiliating with merchandise sub-division. Has been in business 30 years; operates warehouses totaling 225,000 sq. ft. E. H. Tripp is president.

Western Warehouse Co., Chicago, affiliating with merchandise sub-division. Engaged in general merchandise and warehousing, operating the Polk Street Terminal, P. R. R. Chicago. Benjamin McKeen is president.

Worcester Cold Storage & Warehouse Co., Worcester, Mass., affiliating with both cold storage and merchandise sub-divisions. Company has been in business since 1906. Warehouses are located on railroad trackage.

It is announced that the Cotter Transfer & Storage Co., Mansfield, Ohio, formerly affiliated with the household goods sub-division, has now affiliated also with the merchandise sub-division.

The Security Storage & Trust Co., Baltimore, household goods sub-division, and the Beatrice Creamery Co., Chicago, cold storage sub-division, each has resigned.

Advancement for Mr. Dalton

CHICAGO, Feb. 16.—E. L. Dalton has been promoted from traffic manager to general traffic manager of Montgomery, Ward & Co., and is succeeded by J. D. Collier, formerly assistant traffic manager.

INCREASED STORAGE IN COLUMBUS HOUSES

COLUMBUS, OHIO, Feb. 24.—The warehouse and transfer business in Columbus during February has been quite active in every way, showing marked improvement over the business in the corresponding month of last year and far ahead of the usual volume of trade for February. The months of January and February are comparatively always rather slow.

Considerable merchandise storing is now being done. Columbus warehouses are filled with canned goods, groceries, household goods and automobiles. In fact, the latter is one of the big features at this time. Thousands of motor cars have been stored in Columbus preparatory to the Spring trade. There is also a considerable quantity of canned goods, groceries in general, excepting sugar, and agricultural implements.

Household goods' space is pretty well filled in all of the Columbus warehouses. Reports show that the space is between 85 and 90 per cent occupied. There is not much movement in household goods at this time, owing to the difficulty in finding dwelling houses.

Freight transfer business has been lively. With the carriers returned to their owners it is believed the railroad movement of freight will be increased, and a better transfer business is looked for here in the immediate future.

THE WAREHOUSE A MARKET BAROMETER

Government Advises Merchants to "Load Up With Goods" When Storage Space is Ample

WASHINGTON, Feb. 16.—"The best barometer" of the commodity market is a description given to the warehouse, in to-day's issue of the United States Bulletin, the Government's official weekly publication issued under the direction of Roger W. Babson. In an article headed "What Has Become of the Warehouses?" there is advice to the merchant to watch the volume of trade through the storage plants in his vicinity. To quote in full:

"We all remember some months ago the spectacular campaign of the Attorney General to empty the warehouses of the country in the interest of reducing the cost of living. Of course all thoughtful people knew at that time that this was simply an attempt to rob Peter to pay Paul, and that nothing would be accomplished by it in the end.

"The interesting fact, however, is that, notwithstanding the raids of the Attorney General, the warehouses of the country are still full. We mean that there is almost no vacant warehouse space in any quantity in any of the large cities of the country. What are these warehouses full of? So far as we can ascertain, they are full of goods. If so, there is not the shortage of goods in the country which the salesmen would make us believe to be true. The merchant may be short of goods on his shelves, and the manufacturer may be short of raw materials, but somewhere there are a lot of manufactured goods which are being held back for some reason or other.

"One of the best barometers of the commodity market is vacant warehouse space. When the warehouses are empty, it is a very good policy for a merchant to load up with goods; but when the warehouses are full, it is a good policy to buy simply from hand to mouth. Ascertain how the warehouses are in your vicinity. Ascertain the amount of goods being stored in your own line. Watch the warehouses."

Charleston Warehouses Sold

CHARLESTON, S. C., Feb. 14.—The Accommodation Wharf & Warehouse Co., which owns wharfs and warehouses, was recently sold for \$200,000 to a group of local business men. While no definite announcement has been made regarding plans, it is reported the business will be continued with important improvements.

Canadian Warehouse Development

KINGSTON, ONT., CANADA, Feb. 9.—Plans which call for expenditure of \$2,500,000 for harbor improvements here will mean the development of warehousing in connection with the erection of dock frontage and grain elevator storage, and the laying out of railway trackage and yards, with provision for speedy loading into river boats.

FEDERAL RULINGS RE LIQUOR STORAGE

Instructions of Interest to Warehousemen Are Issued in Washington

WASHINGTON, D. C., Feb. 5—Federal instructions relative to intoxicating liquors held in storage warehouses for beverage purposes have been received by C. A. Aspinwall, a Washington member of the executive committee of the household goods sub-division of the American Warehousemen's Association. Paragraphs of particular interest to household goods warehousemen include the following:

"Persons having legally acquired intoxicating liquor cannot leave such intoxicating liquor in storage warehouses after Jan. 17, 1920, except by a compliance with the procedure hereinafter set forth, and cannot after Jan. 17, 1920, withdraw any such liquor from such storage warehouses for beverage purposes. Persons possessing intoxicating liquors in their private dwellings must not continue such possession after Jan. 17, 1920, unless such dwellings are occupied and used by them for dwelling purposes only, and if such liquors are used for personal consumption, such consumption must be only by the owners of the dwellings and their families residing in such dwellings or of their bona fide private guests while being entertained therein. Such liquors must not under any circumstances be removed to the dwellings if such intoxicating liquors are held by the owner in some storage warehouse outside of his own State, and if the laws of the State prohibit the shipment of intoxicating liquors into such State for beverage purposes the State law must be observed. The shipment and transportation in any manner of intoxicating liquor of any kind from one State, etc., into another State, etc., except for scientific, sacramental, medicinal or mechanical purposes, the laws of which State prohibit the manufacture or sale thereof for beverage purposes, or where such liquors are intended to be received, possessed, sold, or in any manner used in violation of any law of such State, is at present prohibited by the provisions of the Webb-Kenyon Act of March 1, 1913, and the Reed Amendment of March 3, 1917.

"Persons owning and desiring to dispose of intoxicating liquors which are stored in storage warehouses should apply to the Collector of Internal Revenue or to the Federal Prohibition Director of the district or State, respectively, in which the warehouses are located, for permits to sell for non-beverage purposes. The storage thereafter in storage warehouses will be permitted, provided bond has been furnished by the owner, permit has been issued and the owner has reported same as required by law. He must secure such permit on or before Jan. 27, 1920. In such cases sale can be made to wholesale druggists or pharmacists, as provided by Section 6 of Title 11 of the National Prohibition Act. Before permit is grant-

ed it will be necessary for the owner to give bond in the minimum amount of \$1,000 or the maximum amount of \$100,000, and this bond is gauged by the amount of liquor on hand for sale, and is reckoned at the rate of \$4.20 per proof gallon, as to whiskey and brandy.

"If intoxicating liquors are found in storage warehouses, or other places, except private dwellings, on and after Feb. 1, 1920, and report of same has not been made by the owners, such possession will be prima facie evidence of illegal possession, and the intoxicating liquors will be subject to seizure, and the place where stored may be declared a public and common nuisance.

"In cases where liquors are stored in a public warehouse, or other place of storage, subject to the orders of the owners thereof, the proprietor of such warehouse or place of deposit should make a full report of all such liquors. Such liquors will, however, be nevertheless subject to seizure where they have not been reported by owners.

"In the event a person has two private dwellings he may legally possess liquors in each place, provided such dwellings are his bona fide places of residence and so occupied by him, although occupied at different times. If private dwelling is changed, such liquors may be removed under special permit with other household effects to his new residence, provided such transfer is not in conflict with State laws.

"If a person lives at an apartment house, hotel or boarding house, and such place is his bona fide residence, as described by Sections 25 and 33 of Title 11 of the National Prohibition Act, intoxicating liquors for beverage purposes may be possessed by him in such places, provided such intoxicating liquors are held in his room or rooms, or in the lockers of such apartment house, hotel or boarding house over which he has complete and exclusive control, and which are used exclusively for storage purposes, and provided further that such liquors were lawfully acquired and possessed prior to Jan. 17, 1920."

COMING:

An article on the warehousing facilities of San Francisco.

Imports in Warehouses on Dec. 31

WASHINGTON, D. C., Feb. 18.—The total value of imported merchandise remaining in Federal bonded warehouses on Dec. 31 was \$131,535,159, as compared with \$93,025,244 on Dec. 31, 1918, according to statistics issued to-day by Philip B. Kennedy, Director of the Bureau of Foreign and Domestic Commerce of the Department of Commerce. There was less than \$300,000 worth of distilled liquors in these plants at the close of last year, as compared with \$1,279,626 on the previous Dec. 31. The value of breadstuffs increased three-fold and of chemicals nearly fourfold. There was a slight drop in the values of cotton and iron and steel stored, while the values of leather and sugar and molasses stored increased perceptibly.

VEHICULAR TUNNEL TO COST \$28,669,000

Tube Under Hudson River Would Tend to Relieve New York Freight Congestion

NEW YORK, Feb. 18—Considerable interest attaches at this time to the report of the New York State Bridge and Tunnel Commission on the projected vehicular tunnel to connect lower Manhattan with Jersey City. The report was submitted to Gov. Smith and the New York State Legislature Saturday. The New Jersey report, which is similar to the New York document will be submitted to the legislature of that state at a public hearing.

The estimated cost of the tunnel is \$28,669,000. The present plan contemplates the beginning of the actual construction work in September, next, and the opening of the tunnel in January, 1924. Of special interest are the plans to provide sufficient ventilation for the new tunnel, the principal dangers to which are carbon monoxides from exhaust of motor driven vehicles. In order to provide proper ventilation the plans call for two ducts, one underneath the road bed through which the fresh air will be drawn into the tube and the other overhead through which the foul air will be drawn off. Four ventilation shafts are provided, one at each end inside the pier-head line and one at each end on shore. "The problem of providing sufficient fresh air," the report says, "has been investigated in detail by testing automobiles to determine the amount and composition of the exhaust gases given off by cars under operating conditions and by determining the amount of dilution required to render these exhaust gases harmless. This work is being done under contract with the Bureau of Mines at its Experimental Station at Pittsburgh, Pa., and New Haven, Conn. There is absolutely no question as to the feasibility or practicability of ventilating the vehicular tunnel at a reasonable cost." The report estimates that approximately 60,000 tons of freight is lightered across the Hudson over the various ferry routes every day, and at least 1/6 of this will seek the tunnel. It is pointed out that the new tube will considerably facilitate the transportation of food products into New York.

New Head for Minneapolis Co.

MINNEAPOLIS, MINN., Feb. 23—W. P. Trickett has been elected president of the Minneapolis Terminal Warehouse Co. He is manager of the Minneapolis Traffic Association. The company has a long lease on a warehouse with 200,000 sq. ft. of storage space, built three years ago by the Minneapolis Industries Association. Thomas Skellet is vice-president, and I. A. Thurston, of the N. W. School Supply Co., is secretary-treasurer. Mr. Trickett has been made a director in the traffic association.

Study Cost Accounting "Know Your Business!"

WAREHOUSING NEWS

Contributions Solicited

NEW BUILDINGS, ETC.

CHELSEA FIREPROOF STORAGE WAREHOUSE, in West Twenty-sixth Street, New York City, is being erected by D. Worthmann. The building will be 50 x 100 ft., nine stories, and is to cost \$125,000.

FARMER'S UNION, Beaver Creek, Ore., is planning the construction of a warehouse for the benefit of union members. Shares will be sold at \$50 each.

HYDE PARK WAREHOUSE CO. has filed articles of incorporation asking permission to reduce their capital stock from \$25,000 to \$20,000.

SOUTHERN STORAGE WAREHOUSE CO., Inc., Norfolk, Va., has increased its capital stock from \$5,000 to \$100,000. The officers are E. W. Morriss, president, and M. B. Morriss, secretary.

S. J. WESTHEIMER, Houston, Tex., is planning a six-story, reinforced concrete storage building to cost \$300,000.

A. J. GAMBER, Anaheim, Cal., has opened an up-to-date storage plant for household goods, pianos, canned and dried fruits, vegetables, etc.

HUNTINGTON TRANSFER & STORAGE CO., Huntington, W. Va., suffered a \$150,000 fire, Jan. 7. Furniture belonging to 250 patrons constituted one of the principal items of damage.

PARKHURST COOPERAGE CO. WAREHOUSE, Sioux City, Iowa, was destroyed by fire Jan. 25. The loss was estimated at \$4,000.

H. A. WOLF CO., Omaha, Neb., has included in its plans for development the erection of a seven-story warehouse to care for some of the congestion here. An increase in the capital stock of the company from \$500,000 to \$2,000,000 is being made to finance the plans.

AMERICAN STORAGE WAREHOUSE CO., Columbus, has been organized with a capital stock of \$30,000.

PLYMOUTH WAREHOUSE CORP., Plymouth, N. C., has incorporated at \$30,000.

SULLIVAN & GRINER WAREHOUSE, Monitor, Wash., has been destroyed by fire. Contents and building were valued at \$35,000.

JOHN MULLENS FURNITURE CO. WAREHOUSE, Jersey City, has been destroyed by fire with a loss of \$100,000. The building was a six-story structure, erected about fifteen years ago. Furniture and rugs were destroyed.

HOLLYWOOD AUTO TRANSFER & STORAGE CO., Los Angeles, has contracted for the erection of a four-story, reinforced concrete storage warehouse, to cost \$70,000.

HOWARD F. GROW, Philadelphia, has applied for permission to erect a two-

story brick warehouse at 1308 North Third Street, to cost \$12,000.

PACIFIC SEA PRODUCTS ASSOCIATION, Seattle, Wash., is planning the construction of a \$100,000 cold storage plant, large enough to store 2,000,000 lb. of fish, at Port Chatham, Alaska.

SCHAAD BROS., Colusa, Cal., are planning the erection of a warehouse with a capacity of 350,000 bags of rice.

HUB FURNITURE CO., Philadelphia, will erect a four-story warehouse in Frankford.

H. O. WILBUR SONS, INC., Philadelphia, will erect a warehouse on the west side of Broad Street, south of New, to cost \$275,000.

TRANSPORTATION

PILOT ROCK-PENDLETON STATE LINE, formerly owned and conducted by the Fanchon Stubblefield, will be run under the name of the Pilot Rock-Pendleton Stage Company, Pilot Rock, Ore.

INLAND EMPIRE BOAT & TRUCK LINE, Portland, Ore., has established a freight service from Portland on both the Willamette and Columbia Rivers to be supplemented with a system of truck lines to deliver freight from river steamers to points inland. Freight trucking depots will be established at Rufus, Columbus, Arlington, Roosevelt, Hood River and other points. The truck line from Rufus will operate as far south as Grass Valley, and probably as far as Kent when the business justifies it.

The Penland Brothers Transfer & Storage Co., of Pendleton, Ore., has established a freight line between that city and Walla Walla, Wash., thereby connecting the wholesale houses of eastern Washington and the warehouse facilities of eastern Oregon.

The Bryant Transfer Co., of Walla Walla, Wash., has moved to larger headquarters and added a fleet of four motor trucks.

E. P. Winward & Sons, New Bedford, Mass., have opened a new terminal for their motor transport service. This makes the third large terminal station to be opened by the Winward concern, the others being in Fall River and Providence. The company maintains regular service between the various mill cities in southeastern New England and the different finishing plants. It hauls freight either from terminal to terminal in the cities where the terminals are located, and picks it up at the shipper's door and carries it to the destination. The company operates 22 motor trucks, 17 being of five-ton capacity. The others, smaller, are used in lighter work, particularly in local hauling.

E. Rusk, E. F. Halliday, L. A. Gillispie and C. H. Hogan, Bishop, Cal., will purchase the necessary trucks to be used by a new transportation company in hauling freight. It is expected the line will be in operation soon between Bishop and Lone Pine station.

New Western Express Co., San Francisco, has been organized to conduct a shipping business. It will take contracts for country hauling and will have a storage warehouse. The company will operate a fleet of motor trucks between San Francisco and Oakland.

Faulkner & Behrens, Stockton, Cal., have purchased the draying and forwarding business of the Overland Transfer Co. of that city.

City Transfer Co., Lodi, Cal., has purchased a fleet of trucks, making a total of eleven commercial motor vehicles used by the concern.

Dillon & Ralston, Inc., New York City, is the name of a new company that will do a general export freight forwarding business.

The City Transfer, Van & Storage Co., Long Beach, Cal., has purchased the City Transfer Co. of Los Angeles.

A. Solomon, Eureka, Cal., has established the Dime Delivery Co., and has contracted with practically all larger merchants of the city to deliver orders. Three deliveries are made daily and the service has eliminated the delivery problem as a source of worry. The Dime Co. specializes in delivery of small packages within the city limits.

J. M. West is retiring from the transfer business in Watts, Cal., to go in for farming in Antelope Valley.

Oregon Auto Despatch, Portland, Ore., has absorbed the business formerly conducted by E. N. Brown as the Baggage Transfer Service Co. Brown is now connected with the former company and the Broadway offices are maintained as a branch.

Citizens' Transfer Co., Tucson, Ariz., has been taken over by Al. Montgomery.

The Ownes Valley Transportation, Storage & Packing Co., San Francisco, has been authorized to issue 50,000 shares of common stock to finance the purchase of equipment for the establishment of an automobile transportation line in Ownes Valley.

The Stroudsburg Transfer Co. is the name of a new motor transportation firm which has been organized to do business in Stroudsburg and Pittston, Pa. Light hauling will be done for the present with a few trucks and automobiles, and in the spring the concern intends to branch out. The partners are William L. Fisher, of East Stroudsburg, and N. E. Overfield, of West Pittston.

The Central Transportation Co., of Clinton, Wash., is increasing its capital stock from \$10,000 to \$30,000.

S. W. JOHNSTON TRANSFER CO., Aberdeen, Wash., has added a department for handling the storage of automobiles, trucks and tractors.

KNISLEY & CROWLEY have established a general drayage and freight handling business at Raymond, Wash., and will operate as the Star Transfer Co.

ABERDEEN BAGGAGE & STORAGE CO., Aberdeen, Wash., has moved its offices to 407 South K Street, opposite the Union Depot, and H. M. Delanty has been elected vice-president.

CAPITAL CITY TRANSFER CO. of Salem, Ore., has added a truck sales department and will handle the Dinky line.

INCORPORATIONS

ARIZONA STORAGE & DISTRIBUTING CO., Phoenix, Ariz., has incorporated with \$500,000 to engage in general warehousing, storage and transportation with the following stockholders: Thomas C. McReynolds, Theodore C. McKesson, Henry W. Chambers, Thomas C. McReynolds, Jr., and L. F. Drake, all of Phoenix.

GEORGE W. DANIELS, JAMES KENNEDY AND JOHN A. KENNEDY of Brooklyn are directors of Daniel & Kennedy, Inc., of Manhattan, organized with a capital stock of \$90,000 to do a warehouse business.

SHIPPERS FORWARDING & STEVEDORING CO. of Jacksonville has been organized with offices at 412 Dyal-Upchurch Building, the firm being composed of F. W. Mallard and H. P. Hifcox.

ATLANTIC & PACIFIC TERMINAL, New York, incorporated at \$10,000 to enter the freightage, storage and warehouse business. H. B. Cassers, C. Angel and W. M. LaBorde are the incorporators.

FLETCHER CARTAGE & STORAGE CO., Sandusky, has incorporated at \$15,000, with Frank C. Fletcher and Charles Smith as incorporators.

COLIZER CARTAGE & STORAGE CO., Cleveland, has been formed, with \$130,000 capital, by Roscoe F. Ewing and James L. Lind.

REO GRANDE WAREHOUSE CO., Harlington, Tex., with \$20,000 capital, has been organized by R. T. Stewart, W. F. Coe and H. G. Burgess.

NUGENT DELIVERY, INC., Brooklyn, has been started by J. C. L. Ramalagee, James W. Nugent and L. A. McKee.

GENERAL WAREHOUSING CO., a \$250,000 concern, has been incorporated in Portland, Me., to enter the storage business, with Leonard A. Pierce, president, and J. D. Ryan, treasurer. Charles L. Hutchinson is a director.

L. D. R. STORAGE CO., Dayton, has increased the capitalization of \$20,000 to \$100,000.

GENEVA WAREHOUSE CO., Portland, Me., has been organized, with \$225,000 capital, to do warehousing and storage of household goods, furniture, etc.

C. L. Hutchinson, Portland, is the incorporator.

SOUTH ATLANTIC FORWARDING CO., Wilmington, Del., has incorporated at \$90,000 to enter the general import and export business.

DANIEL H. BURDETT, New York, has been organized, with \$150,000 capital, as an insurance and freight forwarding agent. The incorporators are D. H. Burdett and C. C. Roe.

DICKSON TOBACCO WAREHOUSING CO., at Dickson, Tenn., with capital of \$5,000, was incorporated by H. G. Collins, J. S. Johnson, D. E. Beasley, W. Daniel and Corry Harris.

CHARLESTON IMPORT & FORWARDING CO., Charleston, N. C., has been started, with capital stock of \$200,000, to do general warehousing business. The officers are E. S. Nash, president and secretary; A. C. Cringle, vice-president, and F. W. Barron, treasurer.

W. E. RHODE TRUCKING CO., Newark, with capital of \$25,000, has been incorporated by William E. Rhode, Mary C. Rhode and William J. McFadden.

JENKINS-GRAHAM & RAINEY, New York, has been organized, with \$100,000 capital, by J. C. Rainey, C. M. Jenkins and others to enter the freight forwarding business.

NEWVILLE WAREHOUSE CO., Newville, Pa., with \$30,000 capital, has been organized by W. H. McCrey.

GREAT LAKES STORAGE CO., Hammond, Ind., has been incorporated with \$10,000 by Walter E. Meyn and George W. Murphy and Harold A. Abbott.

GENERAL WAREHOUSING CO., Portland, Me., with capital of \$250,000, has been incorporated by Leonard A. Pierce, president, and J. D. Ryan, treasurer.

INLAND EMPIRE BOAT & TRUCK LINE has been incorporated in Portland, Ore., to operate steamboats on the Columbia and Willamette rivers, centering its service at Portland. Operations will begin March 1.

DALLAS COTTON WAREHOUSE CO., Dallas, Tex., has been incorporated with a capital of \$500,000. The incorporators are C. L. Tarver, W. D. Felder and P. R. Freeman.

PENSACOLA COMPRESS & WAREHOUSE CO. has been incorporated, with a capital stock of \$100,000, to conduct a general warehouse and cotton compression business. Officers are John A. Merritt, president; H. H. Thornton, secretary and treasurer; George W. Howe, vice-president.

Daniel H. Burdett, Inc., New York, has been formed to do a general insurance and forwarding business with a capital stock of \$150,000. Incorporators are D. H. Burdett, C. T. Roe and C. P. Kramer.

Portland, Astoria Seaside Transportation Co., Portland, Ore., has been incorporated with a capital of \$10,000, to operate a freight and passenger automobile line from Portland to Seaside.

Liberty Transfer Co., El Paso, Texas, has been incorporated with a capital of \$5,000.

American Storage Warehouse Co., Cleveland, has been incorporated with a capital stock of \$50,000, by J. C. White and H. W. Bradway.

Enterprise Forwarding System, Inc., New York, has been incorporated with \$25,000 capital, to do a general storage and warehouse business. The incorporators are S. W. Pomponi, R. T. and G. E. Leveille.

GRAY'S HARBOR & PUGET SOUND FREIGHT LINE has been incorporated by H. W. Heritage, H. M. Delanty and T. C. Fox, and operate a fleet of 3-ton White trucks, carrying freight between Seattle and Gray's Harbor points twice daily. The following points are served: Hoquiam, Aberdeen, Montesano, Satsop, Brady, Elma, Whites, McCleary, Olympia, Tacoma and Seattle.

SOUTHERN ATLANTIC FORWARDING CO. has been incorporated, with a capital of \$95,000, to do a general forwarding business. The incorporators are Matthew Hall, Charles H. Barrows, Washington; Douglas McKay, Columbia, S. C.

The St. Louis Cartage Co. has been incorporated with a capital stock of \$10,000 to do a general hauling and transfer business. The incorporators are Veronica E. Mace, George W. Arendes and Ellen Franke.

ASSOCIATIONS

HOUSTON TRAFFIC CLUB, Houston, Tex., at its recent annual meeting elected F. L. Clements, traffic manager for the Gulf Pipe Line Co., president for the ensuing year. The annual dinner of the club was held at the Hotel Bender, with about 150 members and guests attending.

TRAFFIC STUDY CLUB, Akron, Ohio, has been organized with a membership composed of men interested in traffic and transportation problems. The purpose of the club is to study conditions affecting the business of its members and to form a personal acquaintance between the traffic departments of the industries and of the railroads.

Warehouses Considered Unnecessary.

The trend of some road transport plans in British cities is to eliminate the warehouse entirely. As an illustration, the Leicester Chamber of Commerce has this provision in its arrangements recently announced for supplementing and in some instances superseding local railway services:

"Nothing in the nature of a goods warehouse or warehouses is to be established."

The plans call for co-operation on the parts of various British Chambers of Commerce in the arranging of return loads, and the project would be operated without profit to the Chambers. Rates would be charged, the goods would be insured, and shippers would place on file the lists of goods they desired to be moved.

Stewart

MOTOR TRUCKS



Making good all the time for Transfer Men

Here's another fine Stewart record made in daily hauling

The Broadway Storage Co., owner of the above two-ton Stewart Truck, writes, over the signature of P. H. Tracy:

"It is a two ton truck, 21 months old and just as good as the day we bought it. It has covered 30,000 miles and averages eight to ten miles on a gallon of gas. The cost of repairs for the 21 months were \$75.00, it being for two sets of tires. We use about four quarts of oil a week, about 25 lbs. heavy grease every six months.

"We are very much pleased with this Stewart Truck.

"(Signed) P. H. Tracy,

"Providence, R. I."

For low hauling expense get a Stewart

There is a definite reason why Stewarts cost less to buy and run at less expense—make money for their owners, instead of running up bills.

The Stewart is no guess-work truck. It is just right for its work, neither too light or too heavy. Stewart simple construction has rid the machine of hundreds of needless parts, hundreds of pounds of useless weight.

This means a stronger, simpler truck,

with less dead weight to move. Dollars are saved every day in tire mileage, gasoline and oil costs, repair or replacement bills.

That's why Stewarts are used today in 600 American cities, on hundreds of farms and in 27 foreign countries. That's why the Stewart Motor Corporation, in seven years, has come to be one of the world's leading truck producers.

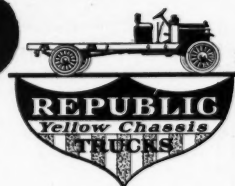
A just-right truck for every use

¾ ton 1 ton 1½ ton 2 ton 3½ ton

Stewart Motor Corporation, Buffalo

Quality Trucks Since 1912

REPUBLIC TRUCKS



The ruggedness of the Republic is amazing. Its reputation in this respect is so remarkable that it undoubtedly is regarded as the most dependable truck in America. It stands up, and keeps on standing up—for years! More business men use the Republic than any other truck—over 60,000 of them. The point is, they keep on adding new units to their Republic fleets. Proof of Republic economy, in other words, is overwhelming.

Republic Motor Truck Company, Inc., 948 Michigan Avenue, Alma, Michigan



REID BROS. EXPRESS CO.
GENERAL HAULING
 DISTRIBUTORS AND FORWARDERS

CASANY 3826
CASANY 4871
DELMAN 9814

OFFICE AND WAREHOUSE BERTHA AVE. AND SUBURBAN TRACKS
 St. Louis, August 22nd, 1919

United States Tire Co.
 2149 Locust Street,
 City.

Gentlemen:—Enclosed are a few facts which may be of interest to you. We have used United States Solid on our fleet of Republic trucks doing service for J.S. Marshall Drug Co. of this city and are more than pleased with their performance. These tires cover 75 Miles daily, and are subjected to rough usage, one set in particular has gone 15000 miles and still looks good. We like your tires so well that we are beginning to use them on our 3 1/2 and 5 ton trucks.

Yours truly,
 REID BROS. EXPRESS CO.
A. Reid



ORDINARY truck tires will do ordinary work.

It takes the unusual tire to do the unusual thing.

Reid Brothers Express Company are but one of the many users who have proved by test that UNITED STATES SOLID TRUCK TIRES stand absolutely alone in point of consistent, hard service, efficiency.

United States Tires are Good Tires

Similar to the grain in wood—the grain in rubber is largely responsible for splitting and cracking in solid truck tires. Explain to your trade that the new grainless rubber solid truck tires made by United States Rubber Company offer far greater mileage and more repeat orders.



Put your
Elevator Door Problems
up to Peelle



**Judge PEELLE
Products by their
Users:**

Tidewater Ware-
house
Roulston Warehouse
Army Warehouse
J. F. Murray's Ware-
house
K. Soloman Ware-
house
Mercer Transfer and
Storage Bldg.
Cold Spring Storage
Company
18th St. Warehouse
Coastwise Warehouse
Fox Warehouse
Medical Supply
Storehouse
9th St. Terminal
*and many
others*

PEELLE

COUNTER-BALANCED-TRUCKABLE

FREIGHT ELEVATOR DOORS

**Are PEELLE DOORS included
in your Spring Building Plans?**

IN forming your plans for Spring building, "Put your Elevator Door Problems up to Peelle"—just as so many important firms throughout the country have done.

PEELLE Counterbalanced Truckable Freight Elevator Doors afford the maximum in elevator door efficiency. They assure dependable protection against fire and accident, are easily operated—whether electrically, mechanically or manually—and are constructed to give long and perfect service.

PEELLE Doors are approved by the Government, by Efficiency and Safety Engineers, and are labeled by the National Board of Fire Underwriters and by Factory Mutuals. Avoid imitations represented as "PEELLE Type," "PEELLE Style," etc.

PEELLE Engineers are at your service, without any obligation on your part. Send for catalogue of PEELLE Products.

THE PEELLE COMPANY

CHICAGO
CLEVELAND
BOSTON
PHILADELPHIA

Stewart Avenue and Harrison Place
BROOKLYN - NEW YORK

CANADA:
MONTREAL
TORONTO
WINNIPEG

Peelle Products Protect

Shippers Index

A Guide to representative Merchandise, Cold Storage and Household Goods Warehouses, Forwarders and Terminal and Transfer Companies, arranged by States and Towns

DISTRIBUTION DIRECTORY

MANUFACTURERS who use warehouses will find in no publication except *Distribution & Warehousing* the authoritative reference directory of America's distribution centers which is spread upon the pages immediately following this one. Month by month this directory is kept up to the moment. Here the national distributor will find listed the facilities which warehouses have to offer in more than a hundred distribution centers from the Atlantic to the Pacific.

The growth of the shippers' index section during the past twelve months represents an expansion of nearly 50 per cent in the number of merchandise warehousemen who are using this advertising medium in which to tell their distribution story. *Distribution & Warehousing* accepts this as an indorsement of its publishing and editorial policy of building co-operation between manufacturer and storage executive. There is no other such channel of acquaintance like it, for it is a channel which flows through a distribution clearing house which has no counterpart.

COMING EVENTS

Meetings Scheduled by Associations in the Industry

Port of N. Y. Warehousemen's Bureau of Information	New York	March 16
New York State Cold Storage Association	Rochester	March 4
Southern Furniture Warehousemen's Association	Memphis	(Date not fixed)
Northwest Transfer & Warehousemen's Association	Seattle	May
National Furniture Warehousemen's Association	(To be decided)	July
American Warehousemen's Association	(To be decided)	December
American Chain of Warehouses	(To be decided)	December
Pacific Coast Furniture Warehousemen's Associations	San Diego	February, 1921

BIRMINGHAM, ALA.**HARRIS TRANSFER
AND WAREHOUSE COMPANY**

(Equipped to Handle Anything)

MODERN FIREPROOF WAREHOUSE

Special Attention Given to Packing and Shipping

When shipping to Birmingham, consign goods to Harris
—he will look after your interests, also those
of your customer

Offices: CHAMBER OF COMMERCE BLDG.

BIRMINGHAM, ALA.**Wittichen Coal & Transfer Co.**
12 South 20th StreetTransfer and storage of household goods. Packing and
shipping. Forwarding and distributing agents. Heavy
Haulage, Motor Service.

BUILDING MATERIAL DEALERS

LITTLE ROCK, ARK.**WAREHOUSING
AND FORWARDING**Distributors of Pool Cars, Parcel Post Catalogs and
Merchandise**TERMINAL
WAREHOUSE COMPANY**

109-111 RECTOR AVENUE

All track connection

BERKELEY, CAL.**STUDENTS
EXPRESS & TRANSFER CO.**MOVING
STORING
FORWARDING

2132 SHATTUCK AVENUE

LOS ANGELES, CAL.**Fidelity Fireproof Storage**

1836 Arapahoe Street, Los Angeles, Cal.

Intelligent and forceful supervision of all
business entrusted to us.We have a seven-story reinforced concrete
warehouse.We consolidate and solicit distribution of con-
solidated cars of household goods.

Frank Robert Palmateer, Prop.

LOS ANGELES, CAL.**BEST IN THE WEST****SAN FRANCISCO WAREHOUSE**When you Ship to California
Remember to Ship to**BEKINS FIREPROOF STORAGE**Prompt and Intelligent Returns,
Your Customers SatisfiedLos Angeles
1341 Figueroa St.Oakland
22d & San PabloSan Francisco
13th and Mission St.**LOS ANGELES, CAL.****Shattuck & Nimmo**
WAREHOUSE CO.**Storage and Distribution**

Of All Non-Perishable Commodities

All cars handled at our own plant. No switch-
ing charge if cars are consigned in our care.Manufacturers and forwarders consolidating
car loads for Pacific Coast distribution are
assured of efficient service and prompt returns.**MEMBERS**Pacific Coast Furniture Warehousemen's Association, American
Chain of Warehouses, National Distributing Division,
Local Rotary Club and Chamber of Commerce



LOS ANGELES, CAL.

Putting Pacific Coast Sales in the Palm of Your Hand

The salesman who can market more of your products over a bigger territory than any other one man is a jewel you are after, isn't he. Aren't you open to consider, then, the proffered aid of the biggest salesman on the Pacific Coast?

One of the greatest merchandising organizations the world has ever known, the Union Terminal Warehouse Company, Los Angeles, is offering you the services of a sales force and a warehousing system that can put your product into every channel of sale and move it faster than any other form of merchandising.

In face of this business-getting machine, a factory branch of your own is merely a toy. The possibilities Union Terminal service holds for you are unlimited. If you need a display room to add "special atmosphere" to your product, you'll find the Union Terminal plan a sales-getter.

The Union Terminal warehouses, docks, trackage, freight storing and moving facilities are the largest and best anywhere west of Chicago. But the great factor to interest you vitally is the new connecting link that brings the Union Terminal right square up to you, its sales department.

A big staff of sales specialists, schooled in the potentialities of the Pacific Coast region, works to bring you, the manufacturer, into contact with the largest number of buyers at the least possible expense. Your product meets all the jobbers, distributors and dealers—not just one or two—in minimum time.

If there's any special service a patron desires, we'll furnish that, too. Let us tell you more about Union Terminal advantages for you. Write now.

Union Terminal Warehouse Company

Seventh & Central Avenue,

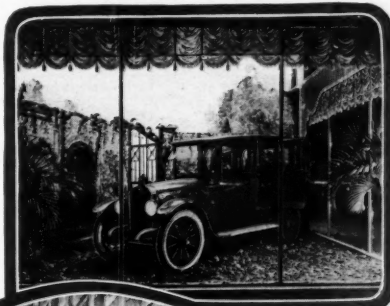
Los Angeles, Calif.

Other aids we offer you:

- We store your merchandise.
- We insure it at the lowest rate in the West.
- We look after your shipments.
- We collect your drafts and accounts.
- We distribute your samples.
- We make you reliable credit reports.
- We trace your cars and save you demurrage.
- We furnish offices for your representative's use.
- We loan you money on your warehouse receipts.
- We furnish you a special display room, if desired.
- We furnish you factory space and market your output.

This new building adds 500,000 fire-proofed, dust-proofed square feet to the largest warehouse system west of Chicago.

Special showroom sells goods



Ample switching facilities make speed



Union Terminal Warehouse Co.

OAKLAND, CAL.

NO TASK TOO GREAT
LAWRENCE
 WAREHOUSE COMPANY
 NO DETAIL TOO SMALL



SACRAMENTO, CAL.

NO TASK TOO GREAT
LAWRENCE
 WAREHOUSE COMPANY
 NO DETAIL TOO SMALL



SAN FRANCISCO, CAL.

HASLETT WAREHOUSE CO., THE

228 Pine Street, San Francisco

Will handle your interests in the Far West with excellence of service that has grown from years of experience in California territory.

Some Haslett Helps For You

We will store or forward your merchandise.
 We offer also U. S. Customs and Tea Bonded Storage.
 Yard storage provided. Public Weighers.
 Warehouse receipts issued—collections made.
 Pool car distributing and reforwarding a specialty.
 Drier, cleaner and fumigator for beans, corn and other grains.
 Light hauling, city deliveries and general truck service.
 Handy location to retail districts and to freight stations.
 Low insurance rates.
 Every form of time-saving equipment.
 Any special service a client desires will be given personal and immediate attention.
 Coffee hulling, conditioning and hand picking.
 Track connections with all lines.

S. M. Haslett, President P. E. Haslett, Secretary

SAN FRANCISCO, CAL.

NO TASK TOO GREAT
LAWRENCE
 WAREHOUSE COMPANY
 NO DETAIL TOO SMALL



If Your City Isn't
Represented Here

Put it on the shippers' map by
inserting your card in this space.

DENVER, COLO.

THE WEICKER TRANSFER & STORAGE COMPANY

Office, 1017 Seventeenth Street

New Fireproof Warehouse on Track

Storage of Merchandise and Household Goods

Distribution of Car Lots a Specialty

Every Facility for Handling Safes, Boilers and Heavy Machinery. Complete Fleet of Motor Trucks and Modern Equipment

Members { American Warehousemen's Association
 Illinois Furniture Warehousemen's Association
 New York Furniture Warehousemen's Association
 Pacific Coast Furniture Warehousemen's Association
 Central Warehousemen's Club
 American Chain of Warehouses
 Southern Furniture Warehousemen's Association

HARTFORD, CONN.

Tel. Connection Office: 335 Trumbull St.

Safety Vaults for Silverware

GEORGE E. DEWEY & CO.

JOSEPH M. PELCHAT Proprietor

Local and Long Distance

FURNITURE AND PIANO MOVING

Packing, Crating and Shipping of

PIANOS, FURNITURES, CHINA

Only Fireproof Storage Warehouse in Hartford

HARTFORD, CONN.

The Roger-Sherman Transfer Co.

Freight Forwarding—Moving

TEAMS
 AUTO-TRUCKS

GENERAL TRUCKING
 HEAVY RIGGING

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B. B. Gardner Storage Co., Inc.

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PIANO AND FURNITURE PACKER, MOVER
 AND SHIPPER

Safe Mover—Freight and Baggage Transfer—STORAGE

WATERBURY, CONN.

The Ralph N. Blakeslee Co.

TRANSFER AND STORAGE

Special Facilities for Moving Heavy Machinery and Safes

Storage Warehouse for Merchandise

Separate Apartments for Furniture

WASHINGTON, D. C.

Moving
 Shipping
 Storing



Smith Transfer & Storage Co.

Office: 912 S Street, N. W.

Let Us Handle Your Washington Business

WE WILL PLEASE YOU

WASHINGTON, D. C.

UNITED STATES STORAGE CO.

418-420 TENTH STREET, N. W.

MEMBERS:

N. Y. Furniture Warehousemen's Association
 Illinois Furniture Warehousemen's Association
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PROMPT REMITTANCES
 Efficient and Courteous Service
 MOTOR TRUCKS
 and
 PADDED VANS
 Modern Fireproof Warehouse

BOISE, IDAHO

PEASLEY

TRANSFER & STORAGE COMPANY

STORAGE, TRANSFER AND FORWARDING

NINTH AND GROVE STREETS

CHICAGO, ILL.

BEKINS

HOUSEHOLD SHIPPING COMPANY

Reduced Rates on Household Goods, Automobiles and Machinery

General Offices, 805 BEDFORD BLDG., Chicago
 NEW YORK, BOSTON, BUFFALO, CINCINNATI

JACKSONVILLE, FLA.

UNION TERMINAL WAREHOUSE COMPANY

EAST UNION and IONIA STREETS

55 Rental Compartments Track Capacity 52 Cars

Building of reinforced concrete with sprinkler system.
 Low Insurance Rate. Sub-Post Office and branch
 Western Union Telegraph. Joint Railroad Agent.
 L.C.L. freight loaded direct for line of road.

GENERAL MERCHANDISE STORAGE AND FORWARDING

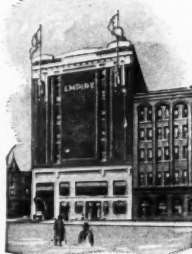
Special attention to handling of pool cars.

CHICAGO, ILL.

EMPIRE Storage Company

Convenient to All Railroad Switches.

Modern FIREPROOF
 Warehouses for Storage of
 Household Goods



MOVING PACKING SHIPPING

Heated Piano Rooms
 Art Galleries
 Vaults for Valuables
 Private Compartments for Furniture
 Automobiles Stored
 Motor Truck Service



Established 1891

Capacity 1,500,000 cu. ft.
 Low Insurance Rate.

General Office
 52nd St. and
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MEMBERS:

Illinois Furniture Warehousemen's Association
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P. O. Box 1133

General Merchandise Storage and Distributing

References:

Any bank, jobber or transportation man in the city

ATLANTA, GA.

CATHCART TRANSFER & STORAGE COMPANY

Moves, Stores, Packs, Ships
 Household Goods Exclusively

Office and Warehouse, 6-8 MADISON AVE.

ATLANTA, GA.

Warehousemen

MORROW

TRANSFER & STORAGE COMPANY

COMMERCIAL STORAGE

Distributors—R. R. Trackage—Carloads a Specialty

Household Goods Moved, Stored, Packed and Shipped
 180-184 MARIETTA STREET

ATLANTA, GA.

Warehousemen

Distributors

Southern Sales & Storage Co.

Markets secured for Meritorious Mdse.
 Concrete Warehouse, R. R. Trackage,
 Make our office your Southern Headquarters,
 We have an efficient Sales Force.
 13 Produce Place

Pick Your Consignee

from the companies listed in this section—they are the "live wires" of the field and will handle your shipments promptly and efficiently.

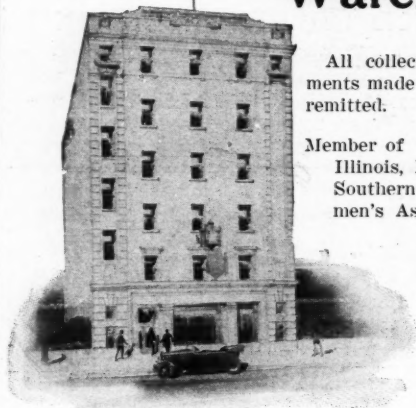
*It is also worth your while
 to earn their reciprocity.*

CHICAGO, ILL.

ESTABLISHED 1874

HEBARD

Storage Warehouses



All collections on shipments made to us promptly remitted.

Member of
Illinois, New York and
Southern Warehouse-
men's Associations.

Our Seventh Warehouse

now under construction on Broadway, near Devon Avenue, which will handle all Rogers Park or North Shore shipments.

Warehouses A-B-C D, West Side, Ogden and Winchester Aves.
Warehouses E-F, North Side, Sheridan Road and Sheffield Ave.
Warehouse G, North Side, Broadway near Devon Ave.

CHICAGO, ILL.

Soo Terminal Warehouse Company

General Merchandise Storage and Distribution
Direct Rail and Tunnel Connection with All Trunk Lines.

519 West Twelfth St.

"THE ECONOMICAL WAY"

FORT WAYNE, IND.

BROWN TRUCKING COMPANY

MOVING, DISTRIBUTING, STORAGE AND
GENERAL TRANSFER—MOTOR SERVICE

Pool Cars a Specialty

Office, 125 W. Columbia Street

FORT WAYNE, IND.

Private Siding With All Railroads

Pettit's Storage Warehouse

FIRE PROOF BUILDING

ROOMS FOR HOUSEHOLD FURNITURE

General Merchandise Warehousing and Transferring
Factory Distributors

If Your City Isn't Represented Here

Put it on the shippers' map by
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INDIANAPOLIS, IND.



Our Service Consists of

Warehouse for Manufactured Articles.

Prompt shipment for all orders.

Prompt reports of shipments as you want them.

Trucks for Drayage Equipment.

We are, in fact, ready to be your Shipping Department.

Located in the heart of the U. S. A., within 12 to 24 hours of your customers in Indiana, Ohio, Illinois, Kentucky and Michigan.

Insurance rate, 30c—extra hazardous goods not taken.

Six-story and basement, heavy mill construction, sprinkler equipped, A. D. T. Watchman Service. 150,000 square feet heated to 50°.

We solicit your business and refer you to any of our customers as to our ability to do it right.

Railroads:

Penna. Ry.; C. C. C. & St. L. Ry.; C.
I. & W. Ry.; L. E. & W. Ry.; Ills.
Central Ry.; C. I. & L. Ry.
18 Traction Freight Lines.

The Indianapolis Warehouse Co., Inc.

FRANK A. TODD, V. P. and Gen'l Mgr.

West New York and Canal

INDIANAPOLIS

INDIANA

INDIANAPOLIS, IND.

We Have the Very Best of Equipment for Handling
Heavy Machinery, Boilers, Engines, Tanks
Vaults and Sides for Erecting Smoke Stacks



INVESTMENT \$200,000.00

We have just completed one of the most modern fire-proof warehouses in the country—centrally located on a privately owned railroad switch accommodating eight cars.

We are equipped to give the very best service in all kinds of moving and packing. All shipments consigned to our care will receive prompt attention and our twenty-five years' experience and reliability insures this service.

HOGAN TRANSFER & STORAGE CO.

Member
N. F. W. A. and I. F. W. A.

Established
1892

SOUTH BEND, IND.

Warner Warehouse Company

Merchandise Storage and Distribution
Branch House Service for Manufacturers

SOUTH BEND is a natural distributing center for Michigan, Indiana and Ohio. Our warehouse is located on New York Central tracks and we have free switching connections with all lines entering the city.

518-524 South Pine St.
SOUTH BEND, INDIANA

H. A. PRUYNE, Manager

Members: { American Warehousemen's Association
Central Warehousemen's Club
American Chain of Warehouses

LOUISVILLE, KY.

SAFETY

TRANSFER & STORAGE CO., INC.
Offices 105 S. Hancock St.

HOUSEHOLD GOODS

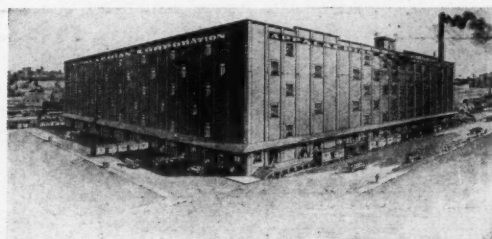
Moved, Packed, Stored, Forwarded
AUTOMOBILE AND TRACTOR STORAGE
Members I. F. W. A.

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NEW ORLEANS, LA.

APPALACHIAN SERVICE



**SPACE—STORAGE—DISTRIBUTION
and FORWARDING**

To the WORLD'S COMMERCE

Through the

PORT OF NEW ORLEANS, U. S. A.

STORAGE We own the Largest Modern Public and Government Bonded Warehouse in the South. Contains 7,500,000 cubic feet, equal to more than 14 acres of surface storage facilities, caring for 3,000 carloads of material at one time. Our sidings have a capacity of 24 cars. Direct connection with all railroad and steamship lines entering New Orleans.

DISTRIBUTION Our facilities for giving our clients a Perfect Distribution Service are unequalled by any warehouse in the Southern States.

FORWARDING We maintain a well organized Freight Forwarding Department for both Import and Export business. We secure lowest freight rates, attend to validation of bills of lading, take out consular invoices, render customs service and deliver merchandise in proper time and condition to steamer or railroad.

FOR SERVICE ADDRESS

APPALACHIAN CORPORATION

INC. OF LOUISIANA

LOUIS B. MAGID, President

South Peters, Thalia, South Front and Erato Streets

NEW ORLEANS, U. S. A.

"The City of New Opportunities"

SPECIAL

Our Negotiable Receipts are Current in all financial centers. When desired we assist. We also arrange Marine Insurance and Advances on Carload Shipments.

BALTIMORE, MD.

Phone Gilmor 3000.

THOS. H. VICKERY, President.

**BALTIMORE STORAGE
& MOVING COMPANY**

1710 to 1720 Edmondson Ave.

Members { N. Y. F. W. A. Fireproof Wh's'e in rear
Balt. F. W. A.**BALTIMORE, MD.**

Leonidas Levering, Pres.

CENTRAL WAREHOUSE CO.
STORAGE—TRANSFER—SHIPPING

517-525 W. Baltimore St.

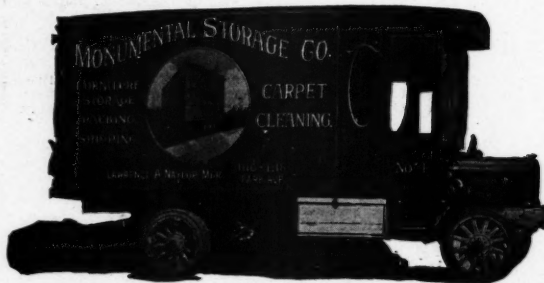
"DISTRIBUTING AGENTS"Consign Your Pool-Cars Direct to Us. We Handle
Everything**"EXPERT SERVICE"****"LOW FIRE INSURANCE"****BALTIMORE, MD.****Graham's Storage Warehouse***The Largest in Baltimore*

Established 1887 GEO. D. MAGRUDER, Pres. and Gen'l Manager

800 Storage rooms, one to ten Van load capacity.
Vans load and unload in the centre of the building.**MOVING — PACKING — SHIPPING**
MOTOR EQUIPMENT

Send us your Baltimore Consignment

Members, N. Y. F. W. A. — I. F. W. A. — Baltimore, F. W. A.

**If Your City Isn't
Represented Here**Put it on the shippers' map by
inserting your card in this space.**BALTIMORE, MD.****THE KAUFMAN**
Fire-proof Storage Warehouses**BALTIMORE, MD.****Send your Baltimore shipments to**
MONUMENTAL STORAGE COMPANY**BALTIMORE, MD.**

Fred I. Savage

George P. Savage

THE SAVAGE TRANSFER CO.
TRANSFER AND LIVERY*We Haul Anything, Anywhere, Any Time, by Motor or Horse-
Drawn Vehicles*C. & P. PHONES: SOUTH { 321
1857

1202-4-6-8-10-12-14 Race Street, BALTIMORE, MD.

Storage Warehouse: 579 W. Lee St. Garage: 118-120 W. West St.
THEATRICAL HAULING A SPECIALTY**BALTIMORE, MD.****Security Storage & Trust Company**

15 W. North Avenue

FIREPROOF WAREHOUSES
MOTOR EQUIPMENT
EFFICIENT SERVICE
TO WAREHOUSEMEN*Members of*
Baltimore Furniture Warehousemen's Association
*New York and Illinois Warehousemen's Association***BOSTON, MASS.**

Established 1880

T. G. BUCKLEY CO.**MOVERS OF HOUSEHOLD GOODS AND PIANOS**
MOTOR TRUCK SERVICE**REINFORCED CONCRETE WAREHOUSE****OFFICE and WAREHOUSE, 690 DUDLEY STREET**

Members N. Y. F. W. A.

BOSTON, MASS.

Quincy Market Cold Storage and Warehouse Co. **STORAGE FOR FREE AND BONDED MERCHANDISE**



Charles River Stores, 480,000 sq. ft. Fireproof construction—Lowest Insurance Rates. Direct track connection with the Boston & Maine R. R. Deep Water Connection—Dock 500 ft. long.

Albany Terminal Stores, 143,000 sq. ft. Fireproof construction—Lowest Insurance Rates. Direct track connection with the Boston & Albany R. R.

Constitution Stores, 60,000 sq. ft. Battery Wharf, 88,000 sq. ft. Wharfage and Storage. Connects with all railroads via Union Freight R. R.

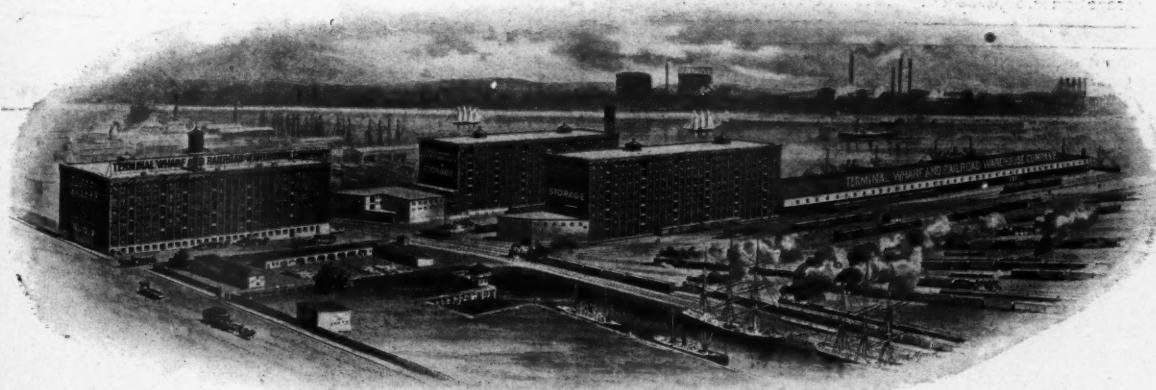
Main Office: 133 Commercial St., Boston, Mass.

BOSTON, MASS.

H. H. WIGGIN, PRESIDENT

S. G. SPEAR, TREASURER

TERMINAL WHARF AND RAILROAD WAREHOUSE COMPANY 50 Terminal Street Charlestown District, Boston



Storage of Wool, Cotton and General Merchandise

LOWEST INSURANCE RATES
 DIRECT TRACK CONNECTIONS
 BOSTON & MAINE R. R.

SHIPPING DIRECTIONS
 MYSTIC WHARF
 BOSTON, MASS.

Fumigation of Foreign Cotton and Cotton Waste

AND OTHER MATERIALS AS REQUIRED
 BY U. S. GOVERNMENT

CARTAGE TO AND
 FROM FREIGHT STATIONS
 AND BOAT LINES

WEIGHING, SAMPLING, AND ALL
 SERVICES USUALLY PERFORMED
 BY AN UP-TO-DATE WAREHOUSE

We will Lease or Build to Suit Tenants

HOLYOKE, MASS.

Holyoke Warehouse Co.

Park and Crescent Streets

Modern Fireproof
Warehouse

B. & M. R. R. Siding

We specialize in Merchandise Distribution, Pool Cars or Spot Stocks, Yard Storage, New Autos, Trucks, Farm Implements and Machinery.

TRY OUR SERVICE

Heavy Haulage

Truck Service

NEW BEDFORD, MASS.

NEW BEDFORD STORAGE WAREHOUSE CO.

Modern Sprinklered Warehouses, Approximately 400,000 sq. ft. Floor Space.

Low Insurance Rates

Excellent Rail and Water
Connections

N. Y., N. H. & H. R. R. and New Bedford Line, from Pier 40, North River, New York. Daily sailings.

We operate a large, modern pier and storage shed on 25-ft. channel.

Distribution and Pool Car
Shipments Solicited

HOLYOKE, MASS.

Sheldons Transfer & Storage

ESTABLISHED 1870

Main Office 637 Main St.

Branch Office 81 Main St

SPECIALISTS IN POOL CARS

Storage Space, 50,000 sq. ft. N.Y.N.H. & H. and B. & M. Sidings

Pick Your Consignee

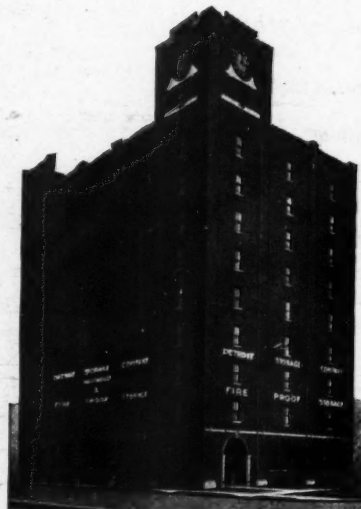
from

the companies listed in this section—They are the “live wires” of the field and will handle your shipments promptly and efficiently

DETROIT, MICH.

DETROIT'S LEADING MOVERS.

Detroit Storage Co.



Main Office and Fireproof Warehouse
MOVING, PACKING, SHIPPING
MOTOR EQUIPMENT

Corner East Grand Boulevard and Beaubien St.,
DETROIT, MICH.

BAY CITY, MICH.

G. VAN HAAREN V. VAN HAAREN
P. Van Haaren & Sons Storage Co.
FIRE PROOF STORAGE
 Steel Compartments for Furniture Storage
 GENERAL TRANSFER LINE
MOTOR TRUCK SERVICE
 Est. 1880 BAY CITY, MICHIGAN

DETROIT, MICH.

GENERAL STORAGE AND CARTAGE CO.

Main Offices:

Grand River and Lorain Avenues

GENERAL MERCHANDISE STORAGE

Forwarding, Distributing and Reshipping Agents. Custom
 House Brokers—Expert Traffic Service

SHIP US YOUR CARLOADS FOR DISTRIBUTION

50 Car Track Space on M. C. R. R. and Grand Trunk
 Motor Trucks—1 to 10 Tons Capacity

DETROIT, MICH.

TURNER CARTAGE COMPANY



Phone
 Main
 2660

Shipments of household goods and merchandise will be handled under personal supervision of company officials.

334-340 Lafayette Blvd., DETROIT, MICH.

GRAND RAPIDS, MICH.

Elston Packing & Storage Co.

Storage household goods and merchandise. Seven warehouses with over 200,000 sq. ft. of floor space.

Members of the Illinois Warehousemen's Assn., New York Warehousemen's Assn. and American Warehousemen's Assn.
GRAND RAPIDS, MICH.

GRAND RAPIDS, MICH.

Shank Fireproof Storage Company

Largest Fireproof Storage Warehouse in Western Michigan.
Merchandise and Household Goods.

Members I. F. W. A.

MISSOULA, MONT.

Securty Warehouse & Transfer Co.

(Incorporated)

Warehousing of every description: Storing, Packing, Carting, Shipping, R.R. Siding. Manufacturers' distributors. We solicit your Western Montana shipments.

MINNEAPOLIS, MINN.

The Gateway to the Great Northwest



We can handle your
 Entire Distribution
 Throughout the
NORTHWEST

Consign Your Shipment to
**THE MINNEAPOLIS TERMINAL
 WAREHOUSE COMPANY**
 Minnesota Transfer

ST. PAUL, MINN.

The Central Warehouse Co.

Minnesota Transfer, Minn.

**Merchandise, Bonded and Cold Storage
 Industrial Sites**

At the junction of nine railroads, midway between the Twin Cities. L. C. L. shipping without carting. Motor trucks for local deliveries. 40 acres of ground. Six miles of trackage operated by our electric locomotives.

BILLINGS, MONTANA

Billings Warehouse & Trading Co.

Incorporated

204-216 North 21st Street

**Branch House Service for
 National Distributors**

Investigate the immense and rapidly developing territory for which Billings is the best distribution center.

KANSAS CITY, MO.

QUICK ACTION WINS IN THE BATTLE FOR BUSINESS!

We borrow other people's shipping and distribution problems and turn them into results.

Fireproof Warehouses and Distribution Docks.

L. T. CRUTCHER WAREHOUSE CO.

Distribution and Warehousing

1411 St. Louis Ave.

Kansas City, Mo.

KANSAS CITY, MO.

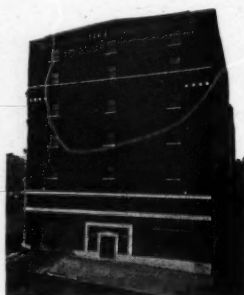
Fireproof Warehouse
Convenient to All
Freight Depots

Send your consignments in our care

Members of I. F. W. A.

L. Leritz & Son

2616-18-20 Warwick



Ins. Rate 22c

KANSAS CITY, MO.

Are You Giving Your Customers Service?

The present congested conditions of our railroads and slow movement of less than carload freight, and the possibility of embargoes on many commodities, make it more imperative than ever that you carry suitable stocks of your goods at important Western distributing centers to properly take care of your trade in that territory.

We invite you to make use of our warehouse as a branch of your own establishment for this purpose. Our building is of modern fireproof construction and equipment—automatic sprinkler system—low insurance rates—free switching of carloads. Ample teaming equipment and twenty years of knowing how, insures prompt, efficient and satisfactory service.

D. A. MORR

TRANSFER & STORAGE COMPANY

Members { Central Warehousemen's Club
American Chain of Warehouses
American Warehousemen's Association
Illinois Furniture Warehousemen's Association
New York Furniture Warehousemen's Association

Please mention this paper

ST. LOUIS MO.

A Transfer Company with an Ability to Serve

ST. LOUIS

America's Fourth Largest City

Nine Freight Depots; One Mile of Platforms

More than 250,000 Square Feet of Storage
and Warehouse Space

225 Teams and 75 Motor Trucks

We are especially well equipped for the prompt handling of consolidated cars for distribution both locally and for points beyond. When consigned care Columbia Transfer Company (La Salle Street Station) you get the benefit of
Daily Package Car Service
from St. Louis to the West, Southwest and Southeast.

**Leased Motor Truck
Service** • By Hour, Day or Contract •

COLUMBIA TRANSFER CO.

America's Largest Transfer Organization

\$2,000,000 Capital

OMAHA, NEBR.

Gordon Fireproof Warehouse & Van Co.

Main Office: 219 NORTH 11th STREET

Six warehouses covering over one city block. 200,000 square feet of floor space. Four warehouses equipped with automatic sprinkler systems.

Warehouses served by private tracks on the C. B. & Q. and the C. & N. W. (joint track); and the Illinois Central. All roads absorb switching charges.

Accommodations for brokers, jobbers, automobile manufacturers and dealers.

Household Goods Packed, Stored and Forwarded

MOVING — TRANSFER — FORWARDING

MEMBER { New York Furniture Warehousemen's Association.
Illinois Furniture Warehousemen's Association.
Central Warehousemen's Club.
Pacific Coast Furniture Warehousemen's Association.

OMAHA, NEBR.

THE
"CITY OF OPPORTUNITY"

Represented by the

Pacific Storage & Warehouse Co.

1007-9-11 JONES STREET

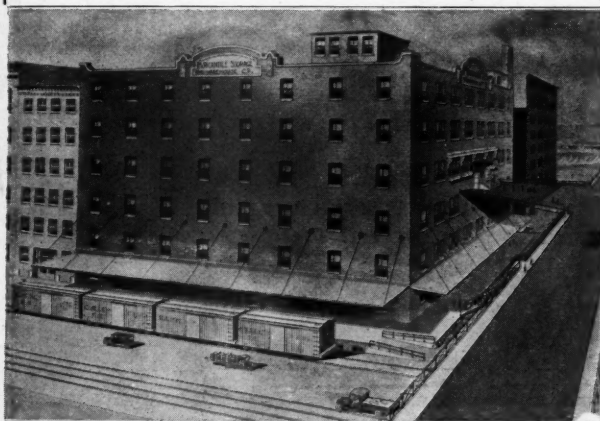
We have studied the problems of the national distributor of manufactured articles and merchandise and have both the experience and facilities to care for business of this kind in a way that will satisfy the most critical.

Write us about the goods you have to be distributed in this territory and we shall be glad to quote prices for delivery, storage or reshipping.

**MOTOR TRUCK SERVICE — 75,000
SQUARE FEET OF STORAGE SPACE**

Members of the Central Warehousemen's Club

OMAHA, NEBR.

**NEW FIRE PROOF BUILDING**

1,500,000 Cubic Feet Storage and Leasing Space, Sample Rooms, Office Space, Merchandise, Storage and Distribution Exclusively.

Mercantile Storage & Warehouse Company

Omaha, Nebraska.

We Specialize in Merchandise Distribution

ATLANTIC CITY, N. J.

ELDREDGE EXPRESS and STORAGE WAREHOUSE CO.

Office: 110 N. South Cardina Avenue

Inter-City Auto Service

Heavy Hauling



Railroad
Siding and
Storage Yard

Storage for
Goods and
Merchandise

Piano Moving

Phone 108

CAMDEN, N. J.

Established 1903

Troth's Model Warehouses

5th and Byron Streets

MANUFACTURERS' DISTRIBUTORS

Correspondence Solicited

Direct Delivery Service Throughout Philadelphia

EAST ORANGE, N. J.

Established 1887

R. T. BLAUVELT, Pres.

LINCOLN STORAGE WAREHOUSES

FIREPROOF NON-FIREPROOF MOTOR EQUIPMENT

Members of New Jersey—New York—Illinois—Southern
Warehousemen's Associations

Principal Office, 85 MAIN STREET

NEWARK, N. J.

Here's a New York Warehousing Service at Reasonable Rates**Newark's Unexcelled Rail Facilities**

These lines have full terminal service in Newark

Lehigh Valley
Pennsylvania
Delaware, Lack-
awanna and Western
Central of New
Jersey, Erie

You storage men know "sky high" New York unloading and distribution cost. But do you know you can get New York service from the Lyon Storage Company at Newark, N. J., at way below New York rates?

You can, and you will get service, with all the "trimmin's." Better write us to-day, and open up this big opportunity for economizing, right away.

Newark has as ample railroad facilities as are found on the Atlantic seaboard. New-

ark is only a few minutes from Greater New York—almost a part of it. Newark feeds 1½ million people.

You can use the Lyon Storage Company facilities as a reservoir from which to make your New York and other Eastern distribution. Water facilities are offered at most reasonable charge.

We have the trucks to put your product anywhere in the Greater New York field, as cheaply as you could move it from any point within Greater New York.

A letter of inquiry, stating your needs, will bring you an outline of Lyon Storage Company facilities. We can save you money. Write us today.



A Well Informed Employee Is Your Greatest Asset

TO GIVE the service that your customers expect and are entitled to receive, it is essential that every department head in your organization have an intimate knowledge of modern warehousing.

This knowledge can best be imparted to the various men in your organization by having them read **DISTRIBUTION & WAREHOUSING** each month.

On the subscription list of **DISTRIBUTION & WAREHOUSING** are many prominent terminal, warehouse, manufacturing and transportation companies who receive regularly several copies of each issue for their general executives, traffic managers and other department heads.

The subscription price is only \$2.00 per year (\$2.50 west of the Mississippi). Dictate the letter now, giving us the names and addresses of the men in your company who should be receiving this publication each month.

DISTRIBUTION & WAREHOUSING

239 West 39th St.

New York, N. Y.

HOBOKEN, N. J.

FREIGHT STORAGE
5 BLOCKS FROM D. L. & W. FERRIES

LOW INSURANCE
RATES ON REQUEST

HUDSON STORES, INC.

Office and Warehouse:
Ferry Street and Park Avenue, Hoboken, N. J.
Phones—Hoboken 1810-1811-1812

NEWARK, N. J.

Estab. 1850 Jos. V. Lupo, Pres. & Treas.
John F. Lupo, Sec.

JOB De CAMP, INC.

80 PARK PLACE
Transfer of Household Goods Storage of Household Goods
Freight, Heavy Haulage, Mdse., New Autos, Imple-
Motor Service ments, Yard Storage.
Factory Distributors
N. J. W. A. Member of A. W. A. and N. Y. F. W. A.

NEWARK, N. J.

ESTABLISHED 1864

SHIP TO NEWARK'S
LEADING FURNITURE WAREHOUSE

KNICKERBOCKER STORAGE WAREHOUSE COMPANY

JOHN MULLIGAN, Pres. GEO. L. BARBER, Gen. Mgr.
100-106 Arlington Street

MOVING PACKING SHIPPING
[MOTOR EQUIPMENT]

MEMBERS N. Y. F. W. A. and N. J. F. W. A.

NEWARK, N. J.**The McGANN Co., Inc.**

Offices, 100 Front Street Telephone 1620 Market.
Merchandise Storage, Trucking and
Distributors

NEWARK, N. J.**Model Storage Warehouses**

54-56 Belleville Ave.

NEWARK, N. J.

Known All Over the
UNITED STATES
for their
EFFICIENCY

IN HANDLING HOUSEHOLD GOODS SHIPMENTS
IN NEW JERSEY

NEWARK, N. J.

F. H. Mooney, President Est. 1882

Mooney's Storage Warehouses

Offices: 556-8 Market Street, Newark, N. J.

Phones: 4370-1 Mulberry

Merchandise Storage, Distributors. Centrally located to
all Railroad Terminals. Daily Motor Service to New York
City and Vicinity.

TRENTON, N. J.**"Expert Service"****Arcade Express & Storage Co.**

Harry A. Douglass, Prop.

Merchandise and Furniture Storage Warehouse

Distributors and Forwarders
In Main Business Section of City

Motor Van Service

13-17 East State Street, Trenton, N. J.

Bill via any R. R.

TRENTON, N. J.**Petry Express & Storage Co.**

(INCORPORATED)

STORAGE WAREHOUSES

MERCHANDISE and HOUSEHOLD GOODS

MOVERS—PACKERS—SHIPPERS

MOTOR VAN SERVICE

Carloads Distributed. Manufacturers' Distributors.
Members N. Y. F. W. A. and I. F. W. A.

ALBANY, N. Y.**SECURITY****STORAGE & WAREHOUSE CO., INC.**

Jas. G. Perkins, Custom House Broker
1 DEAN STREET

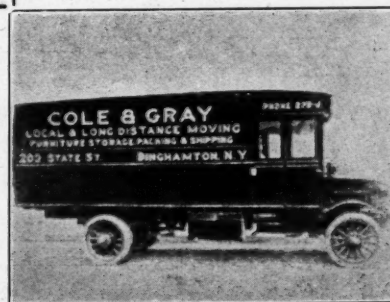
Storage, Transferring and Forwarding
Direct Track Facilities Pool Car Distribution

BINGHAMTON, N. Y.

THREE
WAREHOUSES
33 Years in Busi-
ness

Merchandise
Distribution
and Pool Car
Shipments Given
Especial
Attention

Storage of House-
hold Goods,
Merchandise,
Implements and
Machinery.
Auto Trucks
Heavy Haulage



COLE & GRAY
203 State Street Binghamton, N. Y.

BINGHAMTON, N. Y.

MOLLEN TRANSFER & STORAGE CO.
 —P. O. Box 872—
TWO WAREHOUSES
SIDING ON ERIE WE SPECIALIZE IN
 Merchandise Distribution—Pool Cars—also all classes Transfer Work.
 Members Chamber of Commerce—Illinois and New York
 Furniture Warehousemen's Association.
 American Warehousemen's Association.

BINGHAMTON, N. Y.

Member Chamber of Commerce

JOHN B. SOUTHEE
 STORAGE WAREHOUSE AND VAN OFFICE
MOVING AND TRUCKING OF ALL KINDS
 178 STATE STREET
 Office Phone 1366
 House Phone 1799
 Residence,
 60 Moeller St.

BRONXVILLE, N. Y.**Gramatan Warehouse**

**New, Modern and Up-to-Date Furniture
 Warehouse Under Construction**

ORDERS ACCEPTED FOR COMING SPRING

PACKING—MOVING—STORAGE

R. R. Siding on N. Y. Central R. R.

FRANK B. VALENTINE
 MANAGER

Telephones:
 Day—Bronxville 1456
 Night—Mt. Vernon 328-M

BROOKLYN, N. Y.

Cable Address, *Jenkinis*
 Western Union

Long Distance Phones
 3100-3101-3102 Bedford



ABSOLUTELY FIREPROOF

Long Island Storage Warehouses

Nostrand and Gates Avenues

BRANCH WAREHOUSES

881-891 Park Avenue

781-789 Kent Avenue

To save delay in consignments for delivery to any part of
 New York City or Brooklyn, mark goods in our care to "Eastern
 District Terminal, Brooklyn." This is the center of Greater
 New York—no delay due to congestion.

Try shipping this way. We know**BROOKLYN, N. Y.**

Established 1889

Chas. D. Strang's
Montauk Storage Company

195 So. PORTLAND AVE.

Send your shipments to Brooklyn in my care.
 Both your customers and yourself will receive
 prompt, careful and courteous attention.

Storage, Moving, Packing and
 Shipping of Household Goods.

N. Y. F. W. A.

I. F. W. A.

S. F. W. A.

BUFFALO, N. Y.

BUFFALO
STORAGE & CARTING COMPANY

STORAGE, TRANSFER AND
FORWARDING

Warehouse on New York Central Tracks

BUFFALO, N. Y.**O. J. GLENN & SON**

Everything in the Line of Moving,
 Carting, Packing, Storage

OFFICE: 204 TERRACE STREET

BUFFALO, N. Y.

Monarch Storage & Warehouse Co., Inc.
"SERVICE"

In distribution of goods for National Merchandisers.
 286-308 Elm St., Buffalo, N. Y.

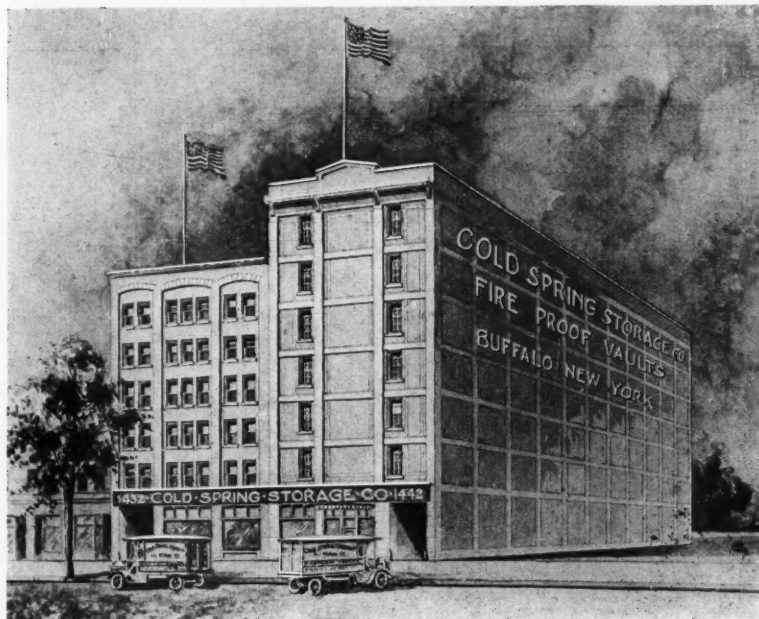
Pick
Your Consignee

from

the companies listed in this
 section—They are the "live
wires" of the field and will
 handle your shipments
 promptly and efficiently

BUFFALO, N. Y.

WE WILL LOOK AFTER YOUR INTEREST AT BUFFALO



EXPERTS in storage, moving, packing and shipping household goods of every description.

Members of Buffalo Chamber of Commerce, Illinois Furniture Warehousemen's Ass'n, New York Furniture Warehousemen's Ass'n.

Cold Spring Storage Company

J. W. POWELL & SON, Props. & Mangrs.

After

25 Years Efficient Service

We have just completed a

SEVEN STORY

"UP TO DATE"

FIRE PROOF WAREHOUSE

The best in existence to-day; the last say in storage warehousing up-to-the-minute.

NOW

With our trained corps of experienced and expert workmen, our five warehouses, our large fleet of auto moving van trucks, and unequalled facilities

WE ARE AT YOUR SERVICE

and solicit your Buffalo shipments.

ELMIRA, N. Y.

WE SHIP SUDDEN

Located Main Line—D. L. and W. R. R. and Erie, Pa., L. V. railroads.

Best Warehouse in the Southern Tier. Low insurance.

Reference: Second National Bank, Chemung Canal Trust Co. and many mercantile houses.

JOSEPH BIMBERG SONS

Elmira, N. Y.

FLUSHING, N. Y.

Blackham Storage & Trucking Co. INC.

We do a general storage, moving, carting and packing business covering Flushing and Long Island. Try our service, you'll like it.

OFFICE: 72-74 GROVE ST., FLUSHING, NEW YORK

GLENS FALLS, N. Y.

H. A. STEVENS & SON

Furniture and Merchandise Storage. Local and Long Distance Moving Packing, Crating.

ELMIRA, N. Y.

Elmira Storage & Sales Co., Inc.

BEST DISTRIBUTING POINT in Western New York and Pennsylvania.

Warehouse, 50,000 square feet floor space, can accommodate 100 cars of merchandise.

Free switching privileges D., L. & W., Erie, Penna. and L. V. railroads. Switch enters building; can load and unload under cover.

General Merchandise and Storage. Forwarding and Transferring a specialty.

Competent help in office and warehouse. We can be used as a branch house at no extra expense.

We do our own trucking.

NEW YORK, N. Y.

"Every Room is an Actual Vault"

Atlas Fireproof Storage Warehouse Co.

157 159 West 124th Street (near Seventh Ave.)

Moving—Packing—Storing—Shipping
A terminal of every railroad in immediate vicinity. Bill "Harlem Terminal." Automobiles taken in dead storage.

Consign your shipment to us for proper attention.

NYFWA

VOA

NEW YORK, N. Y.

LARGEST WAREHOUSE AND TERMINAL FACILITIES IN THE WORLD**Industrial Center of America's Greatest City**

City of warehouses—America's terminal—Bush Terminal.

Here, one of the largest assemblages of dockage, shipping, storing, and distributing facilities in the world.

Here, over two million square feet of storage space.

Here, thirty miles of privately owned railroad trackage joining every large American railroad.

Here, an admirable labor market.

Here, a location where a manufacturer can make, market, and ship his goods to the world's four corners.

Hundreds of other facilities offered by Bush Terminal to manufacturer, shipper, dealer or wholesaler.

We repack, relabel, reship. We store, forward or display goods of every description.

Low cost and high service value should interest you *now*. Get in touch with us at once.

BUSH TERMINAL COMPANY

100 Broad Street

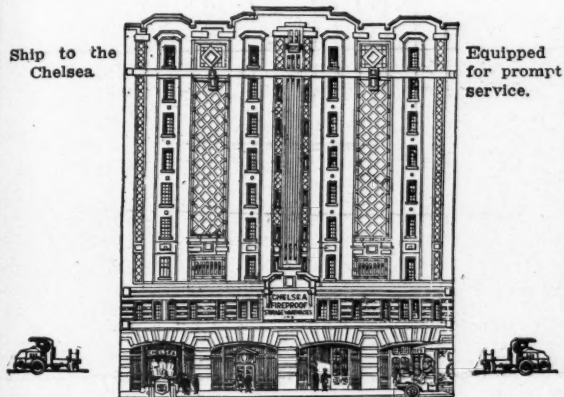
New York, N. Y.

SOLVES SHIPPING AND DISTRIBUTING PROBLEMS OF EVERY SORT

NEW YORK, N. Y.

Chelsea Fireproof Storage Warehouses, Inc.

COMPLETE SERVICE TO SHIPPERS

Storage, Moving, Packing, Shipping, Express
and General Trucking

Our Harlem Warehouse

Chelsea Fireproof Storage Warehouses, Inc.

LOUIS SCHRAMM, Pres. WM. F. HAHN, Secy and Treas.

Main Office
426-434 West 26th St.Harlem Branch
112-120 West 107th St.Members of
New York Furniture Warehousemen's Association
Illinois Furniture Warehousemen's Association
The Merchants' Association of New York

NEW YORK, N. Y.

Julius Kindermann & SonsThree large fireproof storage warehouses adjacent
to Washington Heights and all counties
in Westchester section

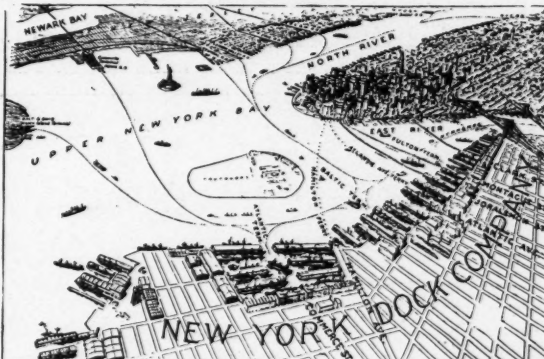
1360-62 Webster Avenue, near 170th Street, Bronx

NEW YORK, N. Y.

Mott Haven Storage Warehouse Co.Fireproof and Non-fireproof Warehouses
Factory Distributors — Motor ServiceAdjacent to all Bronx Terminals. Economic and
Satisfactory Service

THIRD AVENUE AND 140th STREET

NEW YORK, N. Y.

**Largest Bonded and Free Warehouse
and Pier System in the Western
Hemisphere**Occupying approximately 2½ miles of the Brooklyn
waterfront.159 BONDED AND FREE WAREHOUSES having a stor-
age capacity of 65,435,000 cubic feet or 116.2 acres of
floor space.34 PIERS
20 MANUFACTURING BUILDINGS
3 RAILROAD TERMINALS

Buildings for lease with lightering and railroad facilities

NEW YORK DOCK COMPANY

44 Whitehall Street, New York

Calendar showing map of New York Harbor sent on request

NEW YORK, N. Y.

**MORGAN & BROTHER**Storage Warehouses
and Motor Vans

MOVING STORAGE PACKING

Our reputation in handling collections on consign-
ments is your guarantee in selecting us as your
correspondent in New York City*Furniture and Works of Art Boxed
and Shipped to all Parts of the World*230-232-234-236 WEST 47th STREET
TELEPHONE 52 BRYANT Near Broadway

Cable Address: MORGANWARE

Members:

New York Furniture Warehousemen's Association
Illinois Furniture Warehousemen's Association
Van Owner's Association of Greater New York

NEW YORK, N. Y.

Phone Spring 8732-8733

North River Warehouses, Inc.

606-608-610 Washington Street, New York City

Merchandise Storage and Distribution
Centrally Located To All RR Terminals**If Your City Isn't
Represented Here**Put it on the shippers' map by
inserting your card in this space.

NEW YORK, N. Y.

Vandam Warehouse Co., Inc.

General Offices—No. 29 Broadway
NEW YORK CITY

Phone Whitehall-353.

8 CITY WAREHOUSES

also

Waterfront Pier and Warehouses:
MARINERS HARBOR, STATEN ISLAND

NIAGARA FALLS, N. Y.

WILLIAM YOUNG

TRANSFER AND STORAGE OF
HOUSEHOLD GOODS

MACHINERY AND SAFE MOVING A SPECIALTY
"Unexcelled SERVICE"

ROCHESTER, N. Y.

Arthur S. Blanchard, President and Treasurer

Blanchard Storage Co., Inc.

Storage
Moving

HOUSEHOLD GOODS
Rochester "Chief" Rug and Carpet Cleaners
Allen and N. Washington Streets

Packing
Shipping

Members New York and Illinois Furniture Warehousemen's Association

ROCHESTER, N. Y.

Storage, transfer and forwarding of general merchandise. Only warehouse situated in center of city on N. Y. C. R. R. siding. Equipped with sprinkler system. Lowest insurance rates.

MONROE WAREHOUSE CO., INC.,

55-83 Railroad Street

Rochester, N. Y.

ROCHESTER, N. Y.

ROCHESTER CARTING CO.

Members New York Warehousemen's Association
Distributors of Car Load Freight
Unsurpassed facilities for Storing, Transferring and Forwarding
Merchandise and Household Goods
Two Large Storage Warehouses
162-164 ANDREWS STREET

**Pick Your
Consignee**

from the companies listed in this section—they are the "live wires" of the field and will handle your shipments promptly and efficiently.

It is also worth your while
to earn their reciprocity.

ROCHESTER, N. Y.

**JOSEPH A. SCHANTZ
COMPANY**

173-219 CENTRAL AVENUE



We have every facility for handling your Rochester shipments

**Two Fireproof Warehouses
Two Non-fireproof Warehouses
Large Fleet of Modern Motor Vans**

By mailing your Rochester bills of lading to us you are guaranteeing the most prompt and courteous service to your patrons. You are also protecting your own interests, because we will return all collections promptly and watch the details carefully.

Member of New York Furniture Warehousemen's Ass'n.

SCHENECTADY, N. Y.

SCHENECTADY

is a natural Distributing Center. We make a specialty of L. C. L. Forwarding and Distribution of Pool Cars.

Two up-to-date Warehouses. Track connections with all Railroads entering City.

Storage of Household Goods, Merchandise, Implements, Yard Storage. Heavy Haulage. Motor Service.

**SCHENECTADY STORAGE &
TRUCKING COMPANY**

SCHENECTADY, N. Y.

W. CADY SMITH

123 WALL ST.

DISTRIBUTING STORAGE Merchandise RESHIPPING PER ORDER

For Wholesalers and Manufacturers.

Moving Safes, Boilers and Heavy Machinery a Specialty.
Household Goods Stored and Shipped. Motor Service

If the city to which you are shipping is not represented in this list, choose the nearest as the geographical arrangement will help you.

SYRACUSE, N. Y.

Flagg Storage Warehouse**TWO FIREPROOF WAREHOUSES**STORAGE OF GENERAL MERCHANDISE
and HOUSEHOLD GOODSWe are in position to render quick and efficient
service.Centrally located to all jobbers and freight
houses.

Correspondence Solicited.

100 Townsend St.,

Syracuse, N. Y.

SYRACUSE, N. Y.

Merchandise
Distribution
Given
Especial
Attention

Storage of Household Goods, Merchandise and Machinery

IF YOU WANT REAL SERVICE—TELL ME
YOUR REQUIREMENTS**HOOKWAY'S**
Storage Warehouse

725 E. Water St.

SYRACUSE, N. Y.

King Storage Warehouse, Inc.

Opposite N. Y. C. West St. Station

**COMMERCIAL and FURNITURE
STORAGE****PRIVATE RAILROAD SIDINGS****DISTRIBUTING SERVICE**Carload or less carload shipments will receive prompt and careful
attention. This branch of warehousing has been a specialty
with us for over twenty years. We maintain our own delivery
service.**HOUSEHOLD GOODS**We solicit your Syracuse business. Motor delivery service.
Careful attention to collections. Satisfaction to yourself and
customer guaranteed.FOR SAFETY WE SHIP FURNITURE IN THE KING SHIPPING
CASE**Pick Your
Consignee**from the companies listed in
this section—they are the "live
wires" of the field and will han-
dle your shipments promptly
and efficiently.

SYRACUSE, N. Y.

**C**ONSIGN your Syracuse shipments
of merchandise or Household
Goods to us. Railroad siding in con-
nection with our warehouse.Mail bills of lading direct to us. We make
no charge for collections and remit promptly.A big transfer job does not stagger us. We
own and operate a fleet of auto trucks to facili-
tate modern and reliable service.*Yours for Co-operative Service***SYRACUSE FURNITURE &
FORWARDING CO., Inc.**

270-272 James St., Syracuse, N. Y.

STORAGE PACKING SHIPPERS AGENTS

TROY, N. Y.

EMPIRE STORAGE WAREHOUSES

TROY, N. Y.

GENERAL STORAGE AND DISTRIBUTING

UTICA, N. Y.

Consign Utica Shipments

to

**JONES-CLARK TRUCKING AND
STORAGE CO., Inc.**

127-135 Hotel St.

SPECIAL ATTENTION given to Mer-
chandise Distribution and Pool Car Ship-
ments. Storage of Merchandise, Furniture,
New Autos and Machinery.

U. S. C. Bonded

Bill Via N. Y. C., D. L. & W., N. Y. O. & W.

If the City to which you are ship-
ping is not represented in this list,
choose the nearest as the geographi-
cal arrangement will help you.

UTICA, N. Y.

UTICA CARTING & STORAGE COMPANY

Storage, Trucking, Forwarding,
Shipping, Rigging, Transferring,
Distributing, Checking, Packing

MOTOR VANS FOR LONG DISTANCE

Members New York and Illinois Associations.

RALEIGH, NORTH CAROLINA

Carolina Storage & Distributing Co.

Raleigh (Bonded) North Carolina
We store, reship and distribute all classes of freight. Modern brick warehouses located on railroad tracks. Pool car distribution a specialty. Being centrally located, reaching a population of over 1,500,000 within a radius of 100 miles, and having excellent railway service. Raleigh is most logical distributing point for this territory.

MINOT, N. D.

Consign your shipments to The Minot Warehouse & Storage Factory Distributors

Household Goods and Merchandise Stored. Reinforced concrete building with brick walls and hollow tile inner walls.

PRIVATE TRACKAGE MOTOR EQUIPMENT

CANTON, OHIO

CUMMINS STORAGE COMPANY

STORAGE, DRAYING, PACKING AND
FREIGHT HANDLING A SPECIALTY

Unsurpassed Facilities for Handling Pool Cars

310 EAST NINTH STREET

Pick Your Consignee

from the companies listed in this section—they are the "live wires" of the field and will handle your shipments promptly and efficiently.

CINCINNATI, O.

STORAGE

Fireproof and Non-Fireproof

Business Established in 1867 and built up by

A SERVICE THAT SATISFIES

Prompt Deliveries by Motor
Complete Transfer Facilities

Member
of
New York Furniture
Warehousemen's
Association
and
Illinois Furniture
Warehousemen's
Association

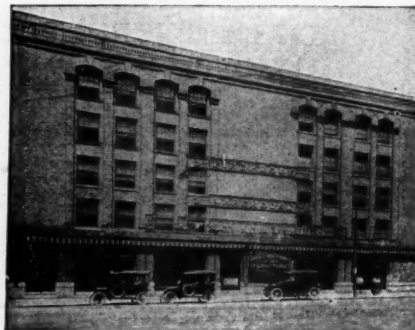
**FRED
PAGELS**

937 West 8th St.



CINCINNATI, OHIO

"STACEY FIRST"



SERVICE
FIREPROOF AND NON-FIRE-
PROOF WAREHOUSES

MODERN MOTOR
VAN EQUIPMENT

RELIABILITY

Established 1891 Investment \$250,000
Your interests carefully protected

STACEY STORAGE CO.

2333 Gilbert Avenue

CINCINNATI, OHIO

"Oldest in Cincinnati."

**WALLACE
Transfer & Forwarding Company**

222 and 224 East Front Street

Pooled Cars distributed and reshipped. Storage Warehouse on the Pennsylvania Railroad.

CLEVELAND, OHIO

SERVICE IS THE THING

For You and Your CLEVELAND Customers

LET US SERVE THEM AS
THEY SHOULD BE SERVED

Our Equipment—Fireproof and Non-Fireproof Storage. Motors and Horse-Drawn Vans.

Our Organization is complete and is more than ample for the largest and most difficult proposition.

We Conserve Your Interests

**THE CENTRAL STORAGE
WAREHOUSE CO.**

1843 East 55th Street
5601 Hough Avenue

CLEVELAND, OHIO



7724 DETROIT AVENUE

CLEVELAND, OHIO

Lake Shore Moving & Storage Co.

864 East 105th Street

Adjacent to the East 105th Street Freight Station of the New York Central Railroad.
Warehouse facilities and economical distribution for the eastern section of Cleveland.

CLEVELAND, OHIO

**THE
CLEVELAND
STORAGE CO.**

Established 1883

Offices: Guardian Building

Mercantile Storage Only

Pool Cars for Distribution
and Reshipment

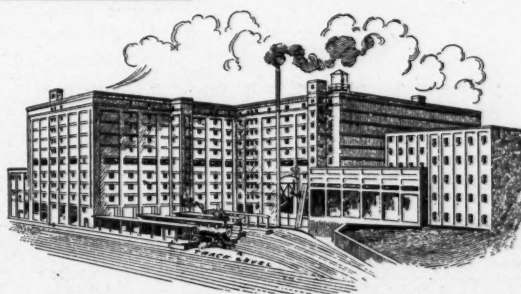
Convenient to Business and Shipping District

**LOW INSURANCE RATES
Sprinkler System**

3 Warehouses, Private Siding,
C. C. C. & St. L. R. R.

Under Railroad Rules in effect October, 1918,
all roads absorb carload switching charges.

CLEVELAND, OHIO



3,000,000 cubic feet General Storage and Leasing Space.

1,250,000 cubic feet Cold Storage Space.

62 Car Capacity at one time.

New, Fire Proof Building

SERVICE

Is all we have to sell.

We solicit your business

Ninth Street Terminal Warehouse Co.

WM. J. HOGAN, President
Cleveland, Ohio

CLEVELAND, OHIO

The Lincoln Fireproof Storage Company

5660-5704 Euclid Avenue

Adjoining Penn. R. R. Euclid Avenue Freight Station and
Team Tracks

CLEVELAND, OHIO

NEAL FIREPROOF STORAGE COMPANY

7208-16 EUCLID AVENUE

Modern Fireproof Buildings Service Complete
Carload Consignments Solicited

CLEVELAND, OHIO

THE REDHEAD STORAGE CO.

2041 E. 105th STREET

MOTOR VAN SERVICE

Fireproof Warehouse
Household Consignments Solicited
Satisfactory Service Assured

Members I. F. W. A. N. Y. F. W. A.

COLUMBUS, OHIO

THERE IS
NOTHING TOO LARGE
NOR TOO SMALL
FOR US TO HANDLE

THE BUCKEYE TRANSFER & STORAGE COMPANY

COLUMBUS, OHIO

Safety First

The Fireproof Warehouse & Storage Company

1018-30 North High Street
Columbus, Ohio

TRANSFERRING — STORING — PACKING

We have one of the finest warehouse plants in the state; being
steam heated throughout, equipped with a sprinkler system, abso-
lutely fireproof. The cheapest rate of insurance. Located handy
to all railroads, we are able to deliver the best service obtainable
anywhere. We solicit your shipments to our city and assure
you we will reciprocate. P. A. DOLLE, General Manager.

Motor Truck Service

Vaults for Valuables

Private Rooms

COLUMBUS, OHIO

THE KUTSCHBACH-McNALLY CO.

Complete Facilities for Storing and Forwarding
HOUSEHOLD GOODS and MERCHANDISE

Siding on Pennsylvania Tracks

Manufacturers' Distributors MOTOR Equipment
Member Interstate Warehousemen's Association

COLUMBUS, O.

The Merchandise Storage Co.

Distributing & Warehousing Merchandise Only
Located on Big 4 Tracks

W. W. FAIRCHILD, Mgr.

Office and Warehouse, 33 Vine St.

DAYTON, OHIO

THE LINCOLN STORAGE CO.

"Fireproof"

BIG 4 TRACK IN BUILDING. Members N. Y. & I. F. W. A.

313-315 EAST FIRST STREET

A. B. Compton, Vice-President

DAYTON, OHIO

THE UNION STORAGE CO.

U. S. BONDED

BAINBRIDGE, BACON & STATE STREETS

MERCHANDISE STORAGE TRANSFER DISTRIBUTION

MANSFIELD, OHIO

THE COTTER TRANSFER AND STORAGE CO.

FIREPROOF AND NON-FIREPROOF
WAREHOUSES

Furniture and Merchandise Storage

Motor Trucks Heavy Hauling Distributing

The Cotter System

Members New York, Illinois and American Warehousemen's Assns.

SANDUSKY, OHIO

The Island & Terminal Transfer Co.

JOHN A. MILLOTT, MGR.

TRANSFER, DRAYAGE and STORAGE
New Three-story Fireproof Building, also Non-fireproof
BuildingsMERCHANDISE AND HOUSEHOLD GOODS
Complete Distributing Facilities Steamboat Landing and
Railroad Siding

SPRINGFIELD, OHIO

Bill All Shipments for Springfield, Ohio, to

WAGNER FIREPROOF STORAGE & TRUCK CO.

Siding on Pennsylvania Lines

Complete Facilities for Distribution of Pool Car Shipments
Moving—Packing—Shipping—Storing
Household Goods and Merchandise

TOLEDO, OHIO

DEPENTHAL TRUCK & STORAGE COMPANY

108 SUMMIT STREET

Member of New York, Illinois, and Southern Furniture
Warehousemen's Associations

TOLEDO, OHIO

THE TOLEDO MERCHANTS' DELIVERY COMPANY

128 SUMMIT STREET

AUTO SERVICE—FIREPROOF STORAGE

Household Goods and Automobiles Moved, Packed, Shipped and
Stored. Safes, Boilers, Machinery and Smokestacks Moved.

100% SERVICE

Reference: Second National Bank, or any bank in Toledo

YOUNGSTOWN, OHIO



Local and Long Distance Hauling
Manufacturers' Distributors Carload Distribution

TULSA, OKLA.

Tulsa Warehouse Company

Inc. \$200,000

Our business is your business in Tulsa.
We store your merchandise.
We look after your shipments.
We collect your drafts and accounts.
We distribute your samples.
We make you reliable credit reports.
We trace your cars and save you demurrage.
We furnish offices for rent to our patrons.
We loan you money on your warehouse receipts.
We give you real service promptly.
If there is anything else we can do for you, our services are at your command.

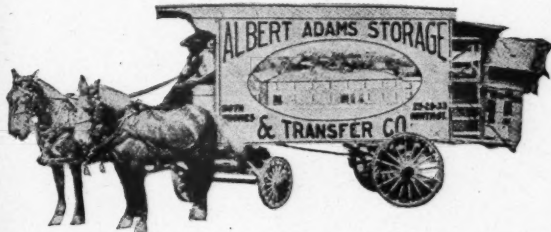
ORRA E. UPP, President and Manager.

ZANESVILLE, OHIO

**ALBERT ADAMS
STORAGE AND TRANSFER CO.**

25-29-33 Ninth St.

Merchandise and Household Goods
Manufacturers' Distributors Carload Distribution
50,000 Square Feet of Floor Space



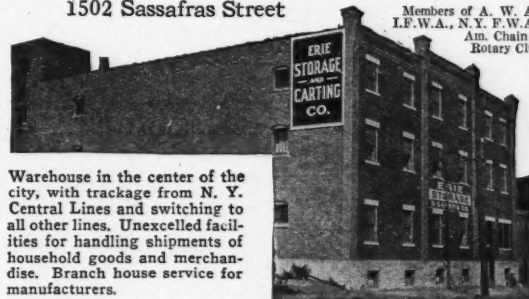
ERIE, PA.

ERIE

STORAGE & CARTING COMPANY

1502 Sassafras Street

Members of A. W. A.,
I.F.W.A., N.Y. F.W.A.,
Am. Chain &
Rotary Club



Warehouse in the center of the city, with trackage from N. Y. Central Lines and switching to all other lines. Unexcelled facilities for handling shipments of household goods and merchandise. Branch house service for manufacturers.

CLINTON, OKLAHOMA

100 miles from any other jobbing center. Distributors for
WESTERN OKLAHOMA

Clinton is the junction point of C R I & P C & O W, St. L & S F and K C M & O Railroads.

No better point for distribution.
No better facilities than ours.

CHURCH WAREHOUSE & TRANSFER CO.

All kinds Transfer and Storage.

OKLAHOMA CITY, OKLA.

Fireproof
Warehouses for
Household
Goods and
Merchandise.

Members of I. F. W. A.,
New York, American
Chain, Central, South-
ern, Pacific Coast
Warehousemen's Asso-
ciation.



O.K. TRANSFER & STORAGE CO.

A. C. WEICKER, President

HARRISBURG, PA.

Pool Cars

Received-Checked-Distributed
and

Forwarded in Less Than Car Lots

Penna. RR Harrisburg Storage Co.
Sidings Harrisburg, Pa.

HARRISBURG, PA.

MONTGOMERY & CO.

STORAGE WAREHOUSES

Merchandise Storage—Transferring—Forwarding

Direct Track Facilities

Pool Car Distribution

Members A. W. A. and American Chain of Warehouses

LANCASTER, PA.

KEYSTONE STORAGE COMPANY

STORAGE—DISTRIBUTORS—FORWARDERS

Merchandise and Household Goods

MANUFACTURERS' DISTRIBUTORS MOTOR SERVICE

Siding on P. R. R. and P. & R.

**If Your City Isn't
Represented Here**

Put it on the shippers' map by
inserting your card in this space.

OIL CITY, PA.

CARNAHAN TRANSFER & STORAGE COMPANY

R. C. LAY, Proprietor
Piano Moving a Specialty
Distributing and Forwarding Agents; Packing
Fireproof Warehouse

PHILADELPHIA, PA.

ATLAS

STORAGE WAREHOUSE

Office and Warehouse:
Market and Thirty-seventh
Streets,
Philadelphia, Pa.

Member Pennsylvania,
New York, Illinois,
and Southern Furniture
Warehousemen's Associations

Service is the measure of the difference between good work and poor.

Service of the right sort in the storage, moving, packing and shipping of household goods and office furnishings exclusively, constitutes our business.

As it relates to shipments consigned to us, we interpret service to require safeguarding the interests of the shipping warehouse, prompt remittance of collections, fair charges and treatment to customers, and to all—courtesy.

We solicit your Philadelphia shipments.

For West Philadelphia and general city delivery consign O. L. and L. C. L. shipments—P. R. R., 30th and Market Sts. Station; B. & O. R. R., 24th and Race Sts. Station; P. & R. Rwy., 23rd and Arch Sts. Station.

PHILADELPHIA, PA.

We Stand for a Square Deal

International Warehousing Co. General Storage

Delaware Ave., Queen and Swanson St.

Forwarding & Distributing

P. R. R. Siding

PHILADELPHIA, PA.

OUR HOBBY

is the distribution of goods for
National Merchandisers

North Philadelphia Storage Co., Inc.
SHIBE BALL PARK

PHILADELPHIA, PA.

Established 1883

Merchants' Parcel Delivery Co.

1132-34 Race St., Philadelphia, Pa.

Deliver in Philadelphia and Camden, N. J.

Special Prices on Samples, Advertising Matter, Calendars and Publications

PHILADELPHIA, PA.



Our large fleet of motor trucks enables us to render quick and efficient service to your patrons.

We are accessible to all depots and suburbs of our city. Our warehouses are within two blocks of North Philadelphia Station of the Pennsylvania Railroad and the 12th and York Streets Station of the Philadelphia & Reading or the Baltimore & Ohio.

Collections through our office will assure prompt returns.

[Fireproof and Non-Fireproof Warehouses]

Miller North Broad Storage Co.

2709-2721 North Broad Street

PHILADELPHIA, PA.

PENN STORAGE & VAN COMPANY

2136 MARKET STREET

"Let Wightman do it"

PHILADELPHIA, PA.

Established 1884

The SAFETY STORAGE VAN & PACKING CO.

3712-3714 Market Street

Motor Truck Moving Storage Domestic and Foreign Packing

PHILADELPHIA, PA.



Columbia Ave. Warehouse
1511-1519
Household Goods Exclusively
Motor Equipment
Moving—Packing—Shipping

TERMINAL WAREHOUSE AND TRANSFER CO.

Green Street and
Delaware Avenue
PHILADELPHIA



Delaware Ave. and Green St.
Warehouse
Water Front
Pool Car Shipments
Manufacturers' Distributing

9 Warehouses—16 Acres of Floor Space—Trackage Facilities
for 17 Cars

Large Organization. Competent Office Warehouse Staff
Members American Warehousemen's Association—American Chain of Warehouses

PHILADELPHIA, PA.



20th CENTURY

THE LAST WORD IN WAREHOUSES

A solid concrete building. Best location in Philadelphia. A fleet of Pierce Arrow enclosed vans. We operate a large garage adjoining our warehouse capable of accommodating the largest van built. Try us when your van is in Philadelphia. All collections through our office promptly remitted. Members New York Warehousemen's Association and Pennsylvania Warehousemen's Association.

20th CENTURY STORAGE WAREHOUSE CO.

3120-22-24-26-28-30 MARKET STREET
(Opposite West Philadelphia Station P. R. R.)

PITTSBURGH, PA.



Fireproof
I will grow four
more stories



Garage & Stables

BLANCK'S Transfer & Storage Co.

Moving, Packing and Storage
MOTOR TRUCK SERVICE—SEPARATE ROOMS FOR STORAGE



Fireproof

6344

Penn

Ave.

E E



Fireproof

PITTSBURGH, PA.

HASLEY BROTHERS TRANSFER AND STORAGE

939 So. Canal St., N. S.

MOVERS, PACKERS, SHIPPERS OF HOUSEHOLD GOODS
FIRE PROTECTED STORAGE—MEMBERS A. W. A.

PITTSBURGH, PA.

SERVICE TO THE
CORRESPONDENT

CONSISTS in giving the correspondence of those we represent prompt acknowledgment, safeguarding their interests, mailing checks in settlement of accounts, and furnishing final reports of transactions.

THIS service also includes an element of importance:—the handling of shipments upon arrival in a manner conducive to joint customer's approval, whose future business we are always eager to secure.

Ship via Pennsylvania to East Liberty Station, (Pittsburgh, Pa.)

Established 1889

HAUGH & KEENAN
STORAGE AND TRANSFER CO.
CENTRE AND EUCLID AVENUES

PITTSBURGH, PA.

HOEVELER
WAREHOUSE COMPANY
MOVERS AND STORERS

750 MILLVALE AVENUE

PITTSBURGH, PA.

MURDOCH

STORAGE & TRANSFER COMPANY

General Office, and Warehouses

546 NEVILLE STREET
PITTSBURGH, PA.

Branch Warehouse, Wilksburg, Pa.

Murdoch Means Service

PITTSBURGH, PA.

J. O'NEIL EXPRESS & STORAGE
N. S. PITTSBURGH, PENNA.

Furniture and Piano Moving a Specialty. General Hauling.

NEW FIREPROOF STORAGE HOUSE
Separate Rooms

PITTSBURGH, PA.

Oakland Ex. & Transfer Co.
Packers, Storers and Shippers of
HOUSEHOLD GOODS
229 ATWOOD STREET

PITTSBURGH, PA.

SHIP YOUR CARS TO US FOR DISTRIBUTION

Pool Cars

Received, Checked, Distributed
Reshipped in Less Than Car Lots

Pittsburg Distributing Co.
601 Empire Building
Pittsburg, Pa.

PITTSBURGH, PA.

Building 100 x 125—8 Stories Front
9 Stories Rear—Garage in Basement—Just Completed



Shanahan
Transfer & Storage Company

Fireproof Storage for Household Goods.

All Separate—1200 Fireproof Rooms.

Furniture Moved and Packed for Shipment.

Motor Vans, Trucks.

Special Heated Piano Floor

Fifth Ave. at McKee Place

(Next Door to You)

Established 1865.

Over 50 Years

PITTSBURGH, PA.

WEBER
EXPRESS & STORAGE COMPANY
GENERAL HAULING

Moving, Packing and Storing of Furniture and Pianos

4620 HENRY STREET

SCRANTON, PA.



SCRANTON, PA.
WILKES-BARRE, PA.

Established 1894.
"He Profits Most Who Serves Best"
(Rotary)

**The Quackenbush
Warehouse Co.**
Incorporated

Warehousing of every description. Storing, Packing
Carting, Shipping. R.R. Siding. Manufacturers
Distributors

Correspondence Solicited

Wilkes-Barre, Pa.

Scranton, Pa.

PROVIDENCE, R. I.

CADY MOVING & STORAGE CO.

STORAGE WAREHOUSES
Household Furniture and Pianos
Packing, Crating and Shipping.
62 to 70 Dudley Street.

CHATTANOOGA, TENN.

**THE CHATTANOOGA
TRANSFER & STORAGE CO.**

Fireproof Warehouse

Furniture Merchandise
Packed Stored Shipped
Heavy Hauling

Motor and Horse Drawn Equipment

NASHVILLE, TENN.

**E. M. BOND
FIREPROOF STORAGE CO.**
HOUSEHOLD GOODS AND MERCHANDISE
Modern Fireproof Building
Private Siding With All Rail Connections.

BEAUMONT, TEXAS

**BEAUMONT BONDED
WAREHOUSE CO.**

WE DO POOL CAR DISTRIBUTING, MOVING, PACKING,
SHIPPING AND STORAGE.

Long distance hauling by Motor Trucks. 50,000 feet
storage space. R. R. track in building—no charges for
switching.

BEAUMONT, TEXAS

DALLAS, TEXAS

CARLOAD DISTRIBUTION & STORAGE

Merchandise and Household Goods

**The Inter-State
Forwarding Co.**

Cor. Elm & Jefferson St.
The Center of the Wholesale District

120,000 Sq. Ft.
on T. & P. R. R. Capacity Unloading 12
Cars Per Day.

Maintains an organization for service in all branches of
Warehousing and Distribution

W. I. FORD and R. E. EAGON
Associate Managers

EL PASO, TEXAS

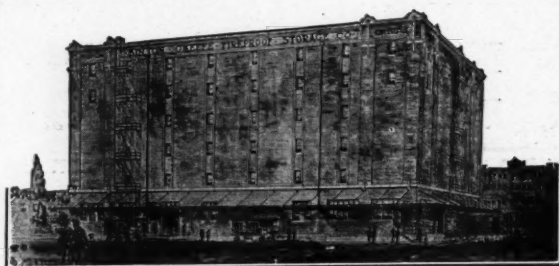
**WESTERN
TRANSFER & STORAGE COMPANY**

220-26 S. STANTON STREET
ONLY FIREPROOF STORAGE IN EL PASO
Forwarders and Distributors—Trucking of all kinds—Distribution
Cars a specialty—Warehouse on Track

**If Your City Isn't
Represented Here**

Put it on the shippers' map by
inserting your card in this space.

FORT WORTH, TEXAS



Binyon-O'Keefe Fireproof Storage Company

Est. 1875

Your consignments to Fort Worth will receive intelligent service. We have a siding on the Rock Island Railroad with free switching from all lines. Fireproof warehouse, 90,000 sq. ft., yard storage, factory distributors.

Members of

Illinois Furniture Warehousemen's Association
Southern Furniture Warehousemen's Association
Central Warehousemen's Association

FORT WORTH, TEXAS

Fort Worth Warehouse & Storage Co.

INCORPORATED

Merchandise Distribution, General Storage
Manufacturers' Representative

PRIVATE SIDING WITH ALL RAIL
CONNECTIONS

Fort Worth with its seventeen railways is the logical
distributing center for Texas and the Southwest.

Absolutely Fireproof Warehouses

SAN ANTONIO, TEX.

Established 1880

FREIGHT

AUTO SERVICE

STORAGE

OFFICIAL DISTRIBUTORS MERCHANTS' TRANSFER CO.

SAFETY

COURTESY

SERVICE

WACO, TEXAS

MASON

TRANSFER & STORAGE COMPANY

217-219 JACKSON STREET

Merchandise Storage, Forwarders & Distribution Trucking of all kinds. Warehouse on track. 7 Denby Trucks

WACO, TEXAS

Weathered Transfer and Storage Co., Inc.

Modern Warehouse Facilities—Trackage on all roads

100,000 SQUARE FEET STORAGE SPACE

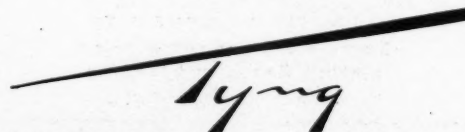
We do pool car distributing, moving, packing, shipping, storage, long distance hauling by trucks.

SALT LAKE CITY, UTAH

SALT LAKE CITY IS A

NATURAL DISTRIBUTING CENTER

We Make a Specialty
of Carload Distribution



Warehouse and Storage Company

MERCHANDISE WAREHOUSING AND DISTRIBUTION COLD STORAGE

Served by all railroads

Salt Lake City, Utah

142,000 Square Feet of Floor Space

CHARLESTON, WEST VA.

Mathews Storage & Transfer Co.

Warehousing—Distributing—Forwarding—Transfer
Merchandise—Automobiles—Household Goods
Brick and Concrete Warehouses—Private Ry. Siding.

Members: } American Warehousemen's Ass'n
Motor Truck and Team Service.

PETERSBURG, VA.**Southern Bonded Warehouse Corp.**

BONDED STORAGE

Distributors Motor Truck Service
Private Railroad Sidings

Our Negotiable Receipts Acceptable at all Banks

ABERDEEN, WASH.**A. A. STAR TRANSFER CO.**

401-403 SOUTH F STREET

ABERDEEN

WASHINGTON

**WE DO EVERYTHING IN THE
LINE OF MOVING**

Our Hobby	Equipped to Handle	Distributors of
CRATING	SAFES	FREIGHT
PACKING	PIANOS	H.H. GOODS
STORAGE	MACHINERY	BAGGAGE

Consign Your Shipments to Us for Proper Attention

SEATTLE, WASH.**United Warehouse Company**

SEATTLE, WASH.

Established 1895

GENERAL STORAGE AND DISTRIBUTING

LE, WASH. SE ATT**Duggan Transfer
Company**

SEATTLE TACOMA

Pool Car Distributors

Fire Proof Warehouse

SPOKANE, WASH.**McAllister Warehouse Company**

W. E. Burke, Manager

More than a Warehouse—we are your personal representatives, carrying out your policies. Carloads are received, stored and distributed in Spokane for local and Inland Empire customers. Office facilities for handling your trade are at your disposal.

We have grown with Spokane; let your account grow with us.

If the City to which you are shipping is not represented in this list, choose the nearest as the geographical arrangement will help you.

TACOMA, WASH.**COMMERCIAL TRUCK &
STORAGE CO.****WE OWN BOTH WAREHOUSES**

Established 20 years in Tacoma—and know how to handle your requirements

Storage (bonded and free) Merchandise and H. H. Goods
Moving and Packing by Experts C. L. & L. C. L. Distribution
Collections Remitted Promptly We Solicit Your Business**TACOMA, WASH.****PACIFIC STORAGE and
TRANSFER CO., Inc.**

Merchandise and Furniture Storage

Distributors and Forwarders

Merchandise and Furniture

SEND YOUR POOL CARS IN OUR CARE

Auto Truck and Transfer Service



N. P. RY. SIDE TRACKS

BROADWAY AND 17th STREET

YAKIMA, WASH.**MILLER & LENINGTON**

CONTRACTORS

DISTRIBUTING and FORWARDING AGENTS

TRANSFER—STORAGE—WAREHOUSING

Motor Trucks and Team Equipment for All and Every Kind of
HaulingSHIP IN OUR CARE and let us be "At your service with best
of service"

Office: 10 East A Street

Sidney Hotel Bldg.

'Phone 571

YAKIMA, WASH.

J. J. CRAWFORD, PRES.

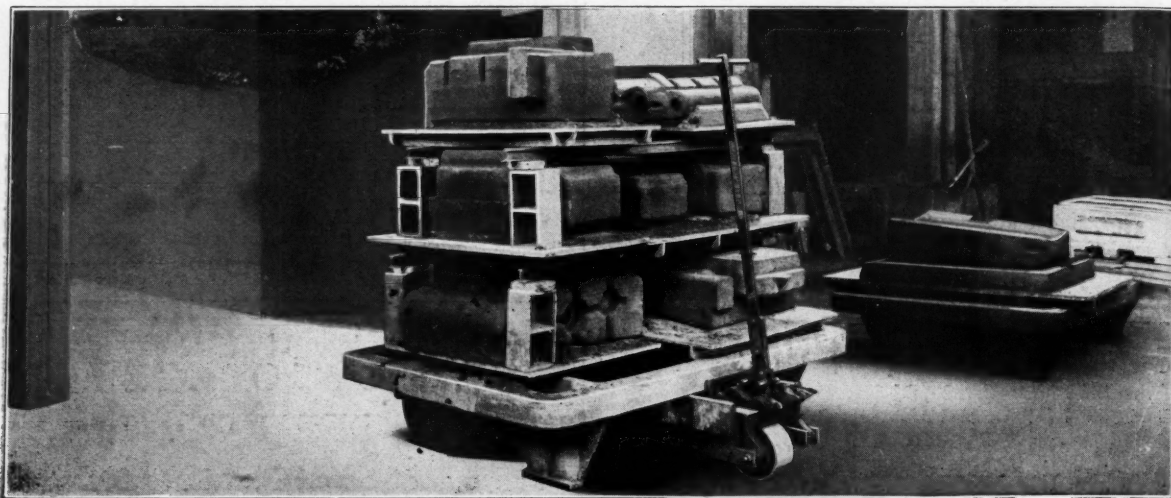
E. NORTON, SEC

**YAKIMA TRANSFER &
STORAGE CO.**Office and general storage warehouse No. 25 North Front.
directly opposite Northern Pacific passenger station.22,000 square feet of compartment storage for household
goods, pianos etc.

Track warehouse No. 11 South First Ave, 30,000 square
feet of floor space devoted exclusively to the storage of mer-
chandise. Every facility for clean, economical, storage and
handling of commercial accounts.

Auto trucks and teams.

Even a Shock Like This Can't Hurt Hyatt Bearings



One of the Sturdy Hyatt Equipped Stuebing Trucks

Recently at a large factory in Ohio an accident occurred which proved that Hyatt Bearings will stand up under the most severe and unexpected shocks.

This plant has a number of Stuebing-Hyatt lift trucks in operation. Accidentally one of these trucks was left in the bottom of the elevator shaft. The heavily loaded elevator descended upon it. Bang! \$1200.00 damage was done to the elevator. But when the débris was cleared away it was found that the truck and the Hyatt Bearings had received no injury.

The bearings of industrial trucks are constantly subjected to shock loads. When trucks drop two to six inches from an elevator to a floor or when they run over rough and uneven flooring, there is a succession of shocks the force of which is concentrated on the bearings. It is these shocks that break down plain bearing trucks by causing the axles to wear flat.

Hyatt Roller Bearings are ideal for this service. Their flexibility, although microscopic, is just sufficient to absorb and cushion the shocks in such a way that the axles are not worn and truck gives durable, dependable service.

In addition—the labor saving, lubricant saving qualities of Hyatt Roller Bearings make them the logical bearings for use on modern improved trucks.

For durable, easy running trucks—specify “Hyatt equipped.” Write for our new Bulletin No. 815 at once.

HYATT ROLLER BEARING COMPANY

MOTOR BEARINGS DIVISION
DETROIT, MICH.

INDUSTRIAL BEARINGS DIVISION

TRACTOR BEARINGS DIVISION
CHICAGO, ILLINOIS

NEW YORK, N. Y.

Manufacturers of Bearings for Mine Cars, Ore Cars, Steel Mill Cars, Roller Tables, Trolleys, Cranes, Hoists, Machine Tools, Line Shafts, Countershafts, Concrete Machinery, Textile Machinery, Conveyors, Lift Trucks, Industrial Trucks, Railway Service Cars, Storage Battery Locomotives, etc.



Copyright 1920, by The Goodyear Tire & Rubber Co.

Winter Trucking on Pneumatics

A year ago 20 privately owned motor trucks were freighting between Duchesne and Helper, Utah. Monte Young's truck wore Goodyear Cord Tires, and the rest were on solid tires. The unfailing traction of Young's pneumatics enabled all-year operation, whereas the others were tied up from autumn until late spring. Today, due to his pioneering experience on pneumatics, 20 government trucks operating between Duchesne and Helper run on Goodyear Cord Tires

THE facts given above furnish new and additional proof that in interurban freighting, trucks equipped with Goodyear Cords clearly outclass those on solid tires.

Even though the difficulties are frequently extreme and the work arduous, the Goodyear Cord Tire is regularly producing substantial economies.

These economies are made apparent when, despite bad winter roads, trucks on the big Goodyears operate on schedule the year 'round.

Economies are evident when trucks on pneumatics doing city work tally more trips each

working day, when they roll surely over all kinds of roads and pavements.

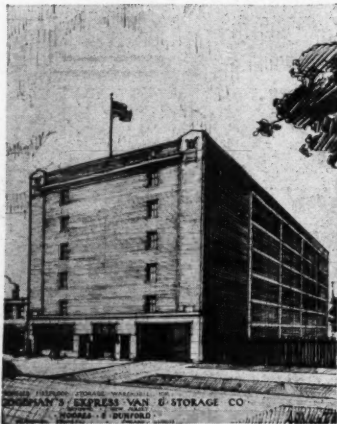
Substantial economies are plainly apparent when, after months of hard usage, the cost records of trucks on Goodyear Cords show less truck repairs and less depreciation.

This efficiency of the perfected pneumatic is due to its cushioning, traction and activity; all of which are made practical by the sturdy toughness of Goodyear Cord construction.

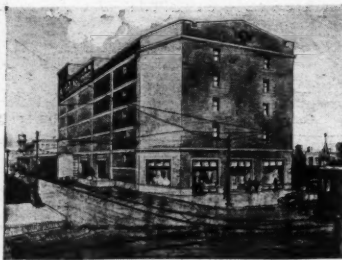
More detailed information about the results that they will produce on transfer trucks can be obtained by writing to The Goodyear Tire & Rubber Company, Akron, Ohio.

GOODYEAR

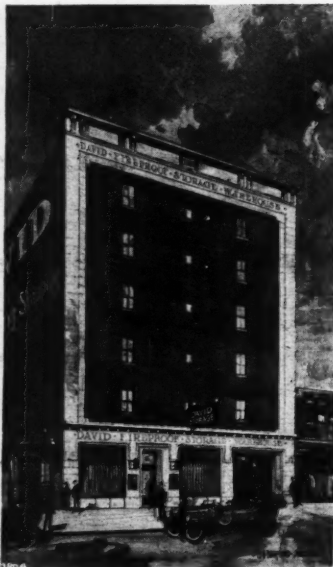
CORD TIRES



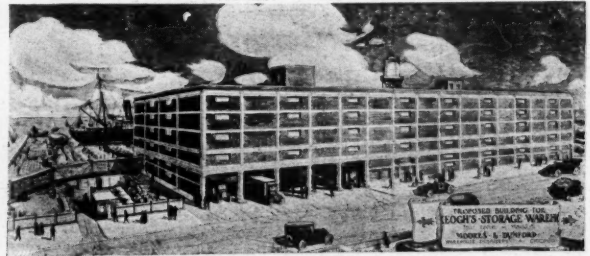
Bayonne, New Jersey



Mason City, Iowa



Chicago, Illinois



Fall River, Massachusetts

THE WAREHOUSE BUSINESS

Never before has it been so generally recognized that cannot be ignored in the solution of

Cause

The late war drove home to men's minds a realization of the fact that adequate accommodations were not available to store the supplies required for our own maintenance, to say nothing of those it was necessary to accumulate for foreign distribution.

Today it is equally apparent that the high cost of living is due not only to lack of production, but in large measure to the lack of proper means of conserving and distributing commodities already produced. Manufacturers, producers, importers, wholesalers, and distributors are continually seeking, without success, desirable warehouse space in your city. Residents and newcomers have looked in vain for satisfactory places to store their personal effects.

Effect

The natural result of this awakening is that an unprecedented number of warehouses are to be constructed this year. They include all types: terminals at ports and railroad centers; merchandise and household goods warehouses in all cities; and cold storage and merchandise houses at natural points of distribution. In this last instance the size of the immediate community is immaterial because the field of operation of the warehouse extends throughout the surrounding territory tributary to this center.

Heretofore the industry has been confined primarily to the large cities. Not so henceforth. Recent experience has taught that the smaller community, as well as the larger, must have suitable warehouse facilities.

As Warehouse Engineers, Moores

FIRST NATIONAL BANK

Service

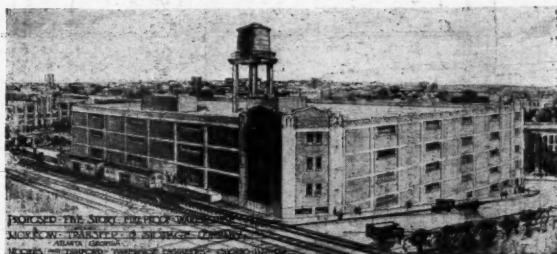
The work which we perform may be briefly itemized as follows:

- (1) Make a personal investigation of the business field which may be covered in your operation.
- (2) Analyze your present business and future possibilities.
- (3) Advise you as to best location for the proposed warehouse.
- (4) Recommend size and type of building and handling devices required.
- (5) Make a close approximate estimate of cost of building, operating expense, and net revenue to be derived.

All of the above with necessary sketches and illustrations is submitted in a

MOORES & DUNFORD REPORT

- (6) Assist client, if requested, in securing a building loan.
- (7) Prepare complete working drawings and detailed specifications.
- (8) Assist client in placing contracts and purchasing material.
- (9) Provide a competent engineer to superintend the construction of the building.
- (10) Personally inspect the building, after completion and prior to client's acceptance.



Atlanta, Georgia

HAS HIT ITS STRIDE

the warehouse fulfills a specific and urgent need which production and distribution problems

Opportunity

Every community of 15,000 or more population, and many with fewer inhabitants have openings for modern fireproof, properly equipped warehouses.

They must be built. Not one of our large cities has warehouse space for storing foodstuffs to meet the requirements of that city for two weeks.

They will be built. Chambers of Commerce, banks, bond houses and wealthy individuals, who heretofore have looked askance at a warehouse project are today embracing the opportunity to invest in them. Keen business men who until recently knew nothing of the warehouse game are getting into it.

Who is going to profit by this opportunity—your competitor, an outsider or yourself?

Reward

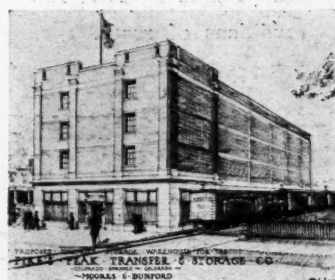
While theorists may preach that it should be a secondary consideration, the fact remains that most warehousemen are in the business for the money there is in it.

How much do you make? You will not tell, and don't care to have it discussed. There are cases, without number, of men who started in the business practically penniless ten or fifteen years ago, and today they are worth thousands of dollars—every cent made in the warehouse business.

There is, however, a humanitarian side. You are rendering service that is indispensable to mankind. Your self respect as an enterprising citizen, as well as your desire to obtain handsome profits, should prompt you to maintain an establishment that is a credit not only to yourself but also to the community which you serve.



Baltimore, Maryland



Colorado Springs, Colorado

& Dunford are Setting the Pace

BUILDING, CHICAGO

Compensation

Our fee is computed in terms of a percentage of the cost of building, as follows:

For complete Service—As outlined under items (1) to (10) inclusive, the fee is 6%, payable:

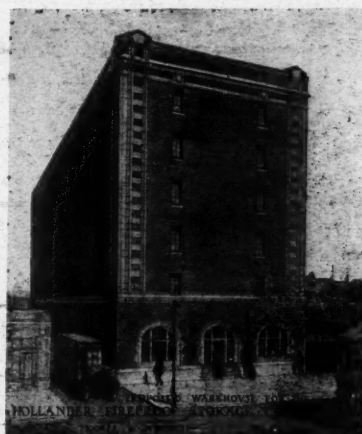
- 1% when the report, embodying items (1) to (5) inclusive, is submitted;
- 3% when working drawings and specifications are submitted;
- 1% when building is to roof;
- 1% when building is completed.

For Consulting and Designing Service—Embodying items (1) to (7) inclusive, the fee is 4%, payable:

- 1% when the report is submitted;
- 3% when the working drawings and specifications are submitted.

For Consulting Service—Covering items (1) to (5) inclusive; and also the checking of plans prepared by your local architect or engineer, the fee is 2%, payable:

Full amount when report is submitted.



Chicago, Illinois

Guaranteed for 15,000 Miles

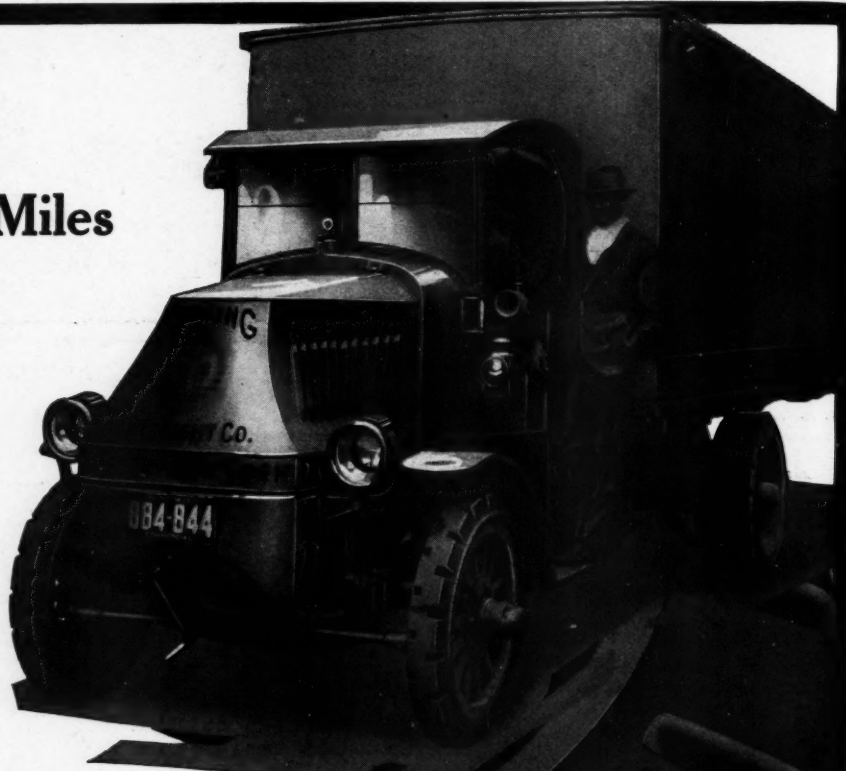
Kelly-Springfield Caterpillar Tires not only are guaranteed for greater mileage than any other truck tire, but their patent-protected construction gives them road gripping qualities impossible in ordinary tires. They give greater traction with less gasoline consumption and carry the truck without trouble over all sorts and conditions of roads.

KELLY-SPRINGFIELD TIRE CO.

General Sales Dept.

1710 Broadway

New York



Protected by
United States
Patents

June 28, 1904
Aug. 31, 1915
Mar. 14, 1916
Feb. 19, 1918

The
char
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from
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In Heavy Transfer Trucking F-W-D Means Longer Truck Life

IN the transfer and storage business the F-W-D meets the demands of the heavy, hard and constant service as no rear drive truck can. It handles all loads most satisfactorily and—

It makes a big money-saving by giving the most years of truck service. The first F-W-D, sold in 1912, is in daily use as efficient as ever.

FWD

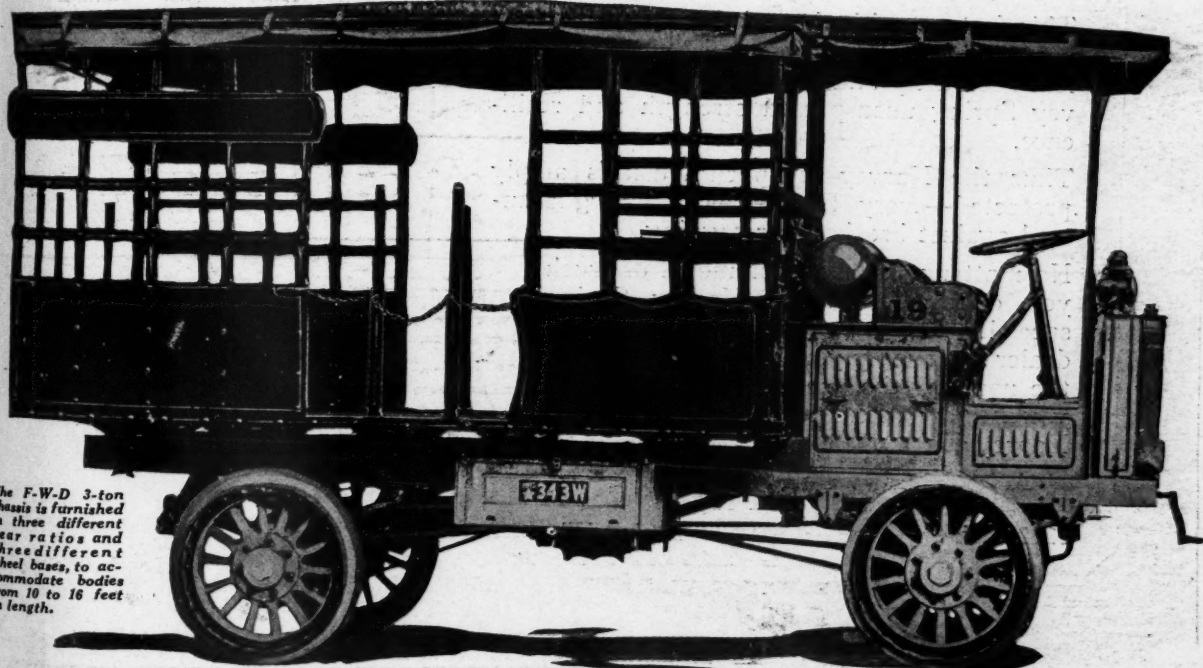
The lasting quality of the F-W-D is due to its distribution of load and power on all four wheels. Stresses are equalized—not concentrated on the rear axle.

The F-W-D is the most easily handled. It steers the same as a passenger car—with the front wheels only. With its 56-inch standard tread front and rear the F-W-D always finds a road. Carrying the same or greater loads than rear drive trucks of its rating, the F-W-D saves 16 inches in truck width and 46 inches in truck length—44 square feet.

The F-W-D saves 21% in tire equipment—does more work on the same fuel—brings trucking costs down to the minimum. Write for literature.

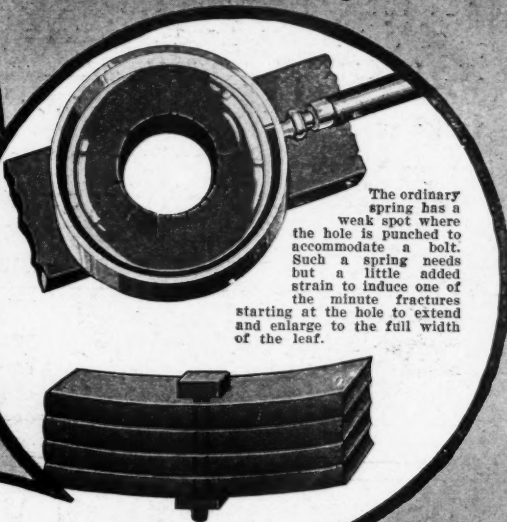
TRUCKS

The Four Wheel Drive Auto Co.
Dept. 108 Clintonville, Wisconsin
Canadian Factory: Kitchener, Ontario



The F-W-D 3-ton chassis is furnished in three different gear ratios and three different wheel bases, to accommodate bodies from 10 to 16 feet in length.

Why the Harvey is Practically Unbreakable — and Why Most Springs Break



THE Harvey Spring is boltless. Instead of a hole each leaf has a bead forged hot. This bead fits into the cavity of the leaf below it. The leaves are held firmly in place by clips.

The ordinary spring leaf has a hole in the center which is punched cold, causing the fractures shown under the magnifying glass.

This feature, with that of the special Harvey process of heat treating and tempering each leaf accurately and uniformly, gives the Harvey Spring unsurpassed strength and resilience.

Thus the Harvey equipped truck is amply protected—every Harvey Spring is guaranteed against breakage or sagging.

No matter what make or model of truck you operate there's a Harvey Spring specially designed for it. Any Harvey dealer can supply you. Write us now for the name of the one nearest you. Then you'll know where to go when you need Harvey Help.

Harvey Spring & Forging Co.
1123 17th St. Racine, Wis.

Easy
Riding
Guaranteed



**BOLTLESS
AUTOMOBILE
SPRINGS**



Why — let these orders pass your door?

By right they might be yours with all the good profits they carry, if you have the proper organization and facilities to serve as a "K & J" distributor now.

If you were offered a logical resale proposition with a years sales already on the order books wouldn't it look "good"? That is practically the "K & J" distributing proposition on dumping equipment today.

State and County Highway Departments are waiting ready to buy "K & J" Standardized Dumping Equipment. Hundreds of Government Army Trucks have been delivered to every state by the Federal Government. Practically all must be provided with dumping equipment.

This emergency is important and must be met. If you will help meet it you can rightfully command a big and immediate profit.

Under today's conditions our very liberal discount to distributors represents only part of your possible net--because of the abnormally low selling cost at which this business now can be taken.

The commercial demand--a permanent market--is large and swiftly expanding. Establish yourself NOW as a dumping equipment distributor--for "K & J" Standardized Dumping Bodies and Hoists are a highly stockable commodity. The line is complete--six distinct types of bodies and many sizes all easily mounted on any chassis frame. Simple, powerful "K & J" Hoists are supplied--an easily lifting hand hoist is optional with a light power hoist for lighter mountings up to 2½ tons capacity. The "K & J" Giant Lift Power Hoist is provided for heavier mountings.

A simple hand adjustment fits a "K & J" Standardized Dumping Body to any width chassis frame and simple tools mount them.

The principles of these hoists are simple and well established. The hand hoist is cranked easily from the main shaft in lifting all ordinary loads. For heavier lifts, or for starting the load an auxiliary shaft offering a further two to one reduction is furnished.

Keep these points well before you--You can establish yourself with the line NOW with a waiting list of buyers. Our huge facilities ensure you deliveries. But the opportunity is NOW--not in six months or a year--but NOW. Write us NOW for our distributor's proposal.

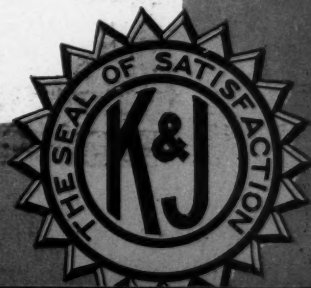
The Kilbourn & Jacobs Mfg. Co.

NEW YORK
120 BROADWAY

Columbus, Ohio, U. S. A

ADDRESS
DEPT. 013 O

TRADE
MARK
REGISTERED

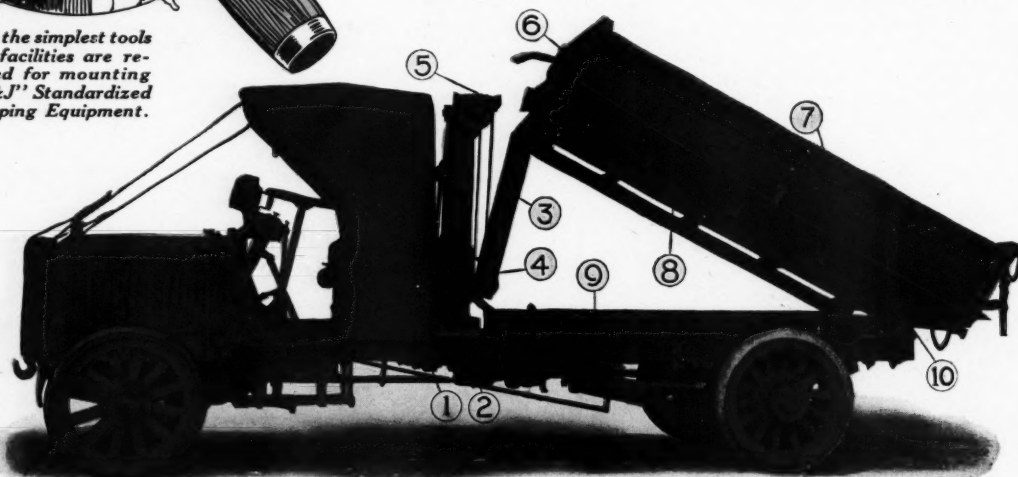




Only the simplest tools and facilities are required for mounting "K & J" Standardized Dumping Equipment.

What is The "K & J" Automatic Power Hoist?

The "K & J" Automatic Power Hoist is a simple, one speed transmission driving a worm and is used to transmit the motor's power to lift a body rather than for driving wheels. As a one speed "lifting" unit it operates about $\frac{1}{10}$ th as much as your four speed "driving" unit ensuring long life with minimum of upkeep.



Government Army Truck—Type "Packard"
(In Partial Dumping Position)

Equipped with "K & J" Automatic Power Hoist and "K & J" Standardized Steel Dumping Body

1. Power Hoist is driven from "sliding jaw" clutch on propeller shaft through a chain. Rugged, simple, positive, controlled by lever easily reached from driver's seat.
2. Sturdy bracket on hoist base provides means of quickly attaching hoist to chassis frame.
3. Hoisting arms shipped attached through rugged brackets riveted to lower front corners of body and to front I-Beam cross-member. Arms fold flat under body. In dumping they travel rails leading up hoist columns. No stiff arms projecting below top of chassis frame to cause trouble in dumping on uneven ground.
4. Power hoisting mechanism automatically disengages at total lift and total descent, also can be disengaged manually at any desired angle up to 45° worm lock holding body without brakes or clutches. Can be re-engaged for travel either up or down. Driver may start with body at full dump. Hoist will lower body and disengage with truck in motion. Entire mechanism housed in bath of non-fluid oil. No pumps, cylinders or pistons. Hence small upkeep cost.
5. Overall hoist height always low--no rising members. Cable winds on grooved drums applying lift at lower, front body corners, first directly then through hoisting arms, practically eliminating back pull on hoist.
6. Partial dumping tail-gate control, manually operated from drivers seat allows "spreading" load with truck moving. Quadrant at handle is ratcheted. Control lever engages any notch to regulate tail-gate opening.
7. Body splendidly fabricated. Lower inside corners rounded--no clogging and consequent rust. All inside rivets countersunk. Sides flared for extra strength and front crowned avoiding spill upon hoist or chassis. High hinged tail-gate for dumping clearance.
8. Rigid and adjustable underframe permits quick fitting to any width chassis frame without shop process.
9. Deep hard wood "cushion" sill strengthens frame and provides buffer against body--also takes away certain vibration strains from motor, transmission and axle.
10. Stout hinges provide rigid attachment of dumping body to truck frame at rear and tend to prevent side-sway in dumping.

The Kilbourne & Jacobs Mfg. Co.

NEW YORK
120 BROADWAY


Columbus, Ohio, U. S. A.

ADDRESS
DEPT. 013 O



TRADE

XUM



UNIVERSAL CARTAGE COMPANY
Auto Truck Delivery

PROMPT EFFICIENT SERVICE

PHONE GRAND
637

Milwaukee, Wisconsin

19 19.

Kissel Motor Car Co.
Hartford, Wis.

Gentlemen: Replying to your request for information regarding my experience with Kissel trucks, am pleased to say that we purchased our first Kissel truck five years ago. It is still in service and holds its own with those purchased later so far as work is concerned.

As our business has grown and additional equipment has been required, we have considered other trucks, but so far none have seemed to compare with Kissel construction. It should be sufficient proof to any one that Kissel trucks have given us satisfaction, when we say we now have nine of them in service.

The Kissel trucks have proven economical in cost of operation and upkeep, and on account of their sturdy construction have enabled us to render prompt and efficient service to our customers. The All-Year cabs make it easier to keep our drivers on the job during the winter months.

Wishing you continued success, we remain

Yours truly,
UNIVERSAL CARTAGE COMPANY
By *John Vander Heyden*
President.

"Started business with one Kissel Truck—we now have nine Kissels and will buy more"

SEVERAL years ago the Universal Cartage Co. started business in Milwaukee, Wis., with one Kissel "Freighter" and several trucks of other makes. "Before standardizing our equipment by adding more Kissels," said John Vander Heyden, the President, "we had to contend with varied loading and operating conditions—enlarged floor space and extra help to handle the parts from different factories. Our mechanics had many adjustments and repairs; each had to be handled differently on account of different construction."

"Since disposing of other makes, we have reduced our stock of parts over one-half, easily taken care of by less than one half the help, and have reduced the gasoline consumption from ten gallons to five gallons per truck per ten hour day, thus effecting a weekly saving of 270 gallons of gas. Our drivers find it much easier to work for a concern that standardizes on equipment because they are then capable of driving and handling any one of our models.

"Our service mechanics can do more on Kissels because they are not complicated and being thoroughly familiar with every part can instantly locate any trouble and eliminate a great deal of lost motion in remedying it. As our older trucks wear out, the interchangeability of parts permits our using the unworn parts, such as wheels, frame, bearings, etc. Through a period of years this effects quite a saving."

A summary of results the Universal Cartage Company has secured by standardizing their truck equipment with Kissel Trucks, brings out the following facts:

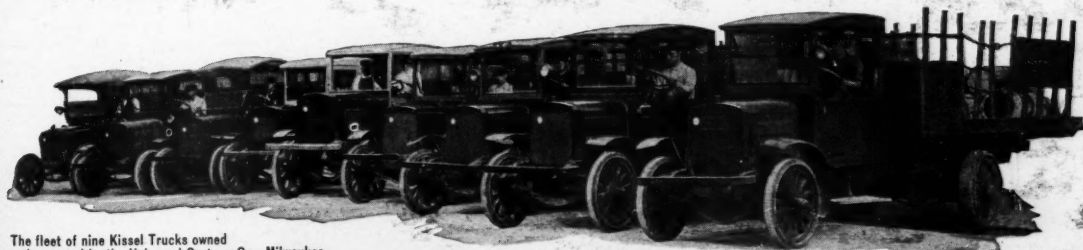
1. Increases driver's efficiency and creates a desire on his part to handle his truck 100 per cent. Attracts good drivers and keeps them satisfied.
2. Mechanics and service men can concentrate on one type of construction, quickly becoming familiar with all mechanical features—eliminating delays in adjusting and repairs—saving time in changing equipment.
3. Through interchangeability of parts, it permits a complete stock at small investment, reducing overhead and labor expense.

4. Enables owners to keep accurate check on gasoline, oil, tires and depreciation.
5. Lower upkeep and repair expense per truck per week results where entire organization is thoroughly familiar with one make.
6. A yearly labor saving of from 10% to 40% that otherwise would be spent in divided efforts.
7. Another important advantage is that the Kissel engineers in designing the Kissel-built motor and other units, standardized them as far as engineering principles and different sized models permitted.
8. The ALL-YEAR Cab, an exclusive truck feature, insures to Kissel fleet owners uninterrupted transportation the year around—giving full protection to drivers and increased results to owners.

The success of Kissel Trucks among the country's prominent fleet owners warrants your careful investigation.

Your nearest Kissel dealer is fully prepared to take the witness stand and submit to your cross examination. Or your request directed to the factory will bring latest literature, specifications and data.

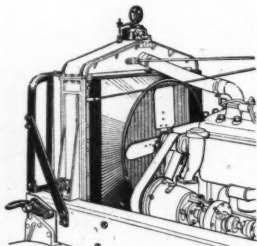
KISSEL MOTOR CAR COMPANY
HARTFORD WISCONSIN



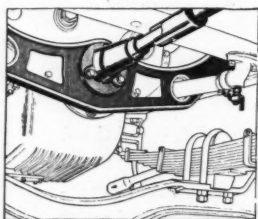
The fleet of nine Kissel Trucks owned and operated by the Universal Cartage Co., Milwaukee

JUMBO

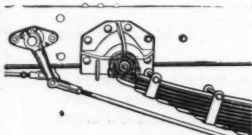
A Word to the Truck-wise is Sufficient



The Jumbo radiator fan shroud insures uniform cooling of entire radiator because air is drawn through fins in even volume. Also note Moto-meter, radiator guard and pig-tail tow hooks.



Front engine support is an I-beam so mounted that entire motor may be removed, if necessary. The radiator drain cock is at lowest point of circulatory system. Every bit of water can be drained.



Jumbo springs are of highest grade spring steel and are 6 to 10 inches longer than customarily used on trucks of similar capacity. Second leaf is wrapped full around driving eye for safety.

Reliable performance of Jumbo Trucks holds our business. It will hold yours. You can count on a Jumbo—always—in everyday service or in emergencies because it has power—and power to spare.

Equipped with a 32.4 h.p. Buda Motor, the Jumbo power plant is sufficiently oversize to avoid being called upon for more than 85 per cent of its capacity. Straight line drive under load and Clark Internal Gear Drive Axle insure maximum efficiency at point of drive. Jumbo Trucks are particularly adapted to trailers.

The more you know about motor trucks in general, the easier you can

see why there are no dissatisfied Jumbo users. Jumbo Trucks are stronger trucks—stronger trucks are better trucks—better trucks give longer, more dependable service at lower upkeep cost.

A Jumbo Truck comes to you completely equipped. There are no extras to buy except the body. A word to the truck-wise is sufficient—and that word is Jumbo—the *complete* truck.

There's a Jumbo for your job. A request brings full information

NELSON MOTOR TRUCK COMPANY, Saginaw, Michigan



Save Money and Labor by Handling L.C.L. Freight with Storage Battery Trucks and Tractors

A brief and pithy comment on the labor situation is expressed in the following quotation:

"The latest quotation gives railroad freight handlers \$7.00 per day wages, and the cost of handling l.c.l. freight \$1.37 per ton.

"And the limit not yet reached."

This quotation gives reasons enough why the storage battery truck or tractor should be used.

Consider that one storage battery truck or tractor will do the work of 10 to 15 hand truckers.

Remember that something must be done—in the face of the present labor shortage and high wages.

Can YOU hesitate in applying these strong, speedy electric trucks and tractors to your freight handling problems?

Edison Storage Batteries are the Standard for this service because they are the only storage batteries built of **Steel and Iron**.

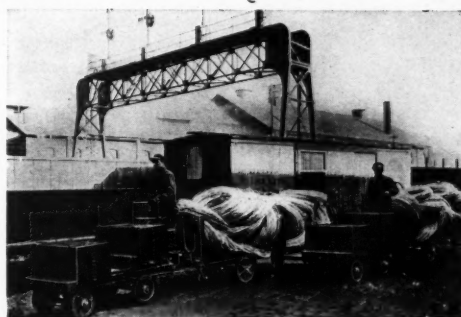
Our Bulletin 600-B will tell you more about Edison Batteries in Trucks and Tractors. A copy on request.

EDISON STORAGE BATTERY CO.

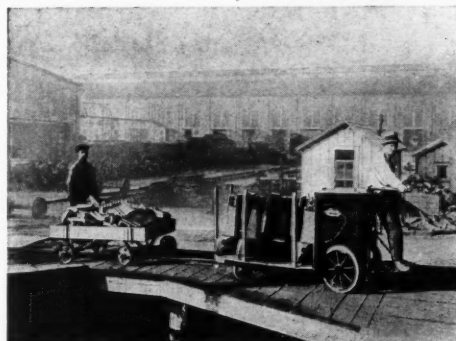
Factory and Main Office: Orange, N. J.

Distributors in

New York, Boston, Chicago, Cleveland, Detroit, Seattle, San Francisco, Los Angeles, Denver, Kansas City, New Orleans, Atlanta, Washington, Philadelphia, Pittsburgh, Scranton, Syracuse, New Haven, St. Louis.



This company operates thirteen trucks and two tractors, all equipped with Edison batteries.



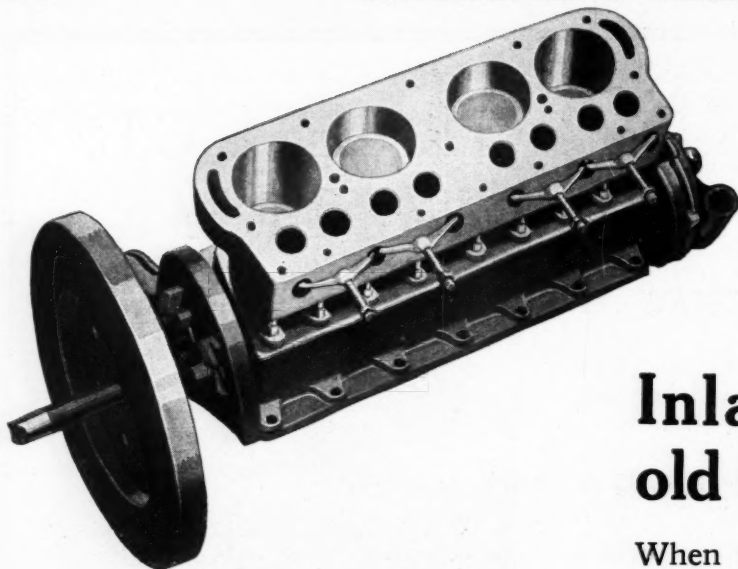
An example of industrial truck service. This storage battery truck is operated singly or with trailer in handling rough stock over the yard to the assembly and machine shop. The truck is loaded with couplings; the trailer is loaded with bearing boxes. Making the grade is part of the trip.



Transporting large numbers of heavy pieces is done quickly and efficiently by storage battery trucks and tractors.



Think of the hand power this one tractor saves. This one tractor travels 2 or 3 times as fast as a hand trucker, and can work day and night if required. Here is a solution for congestion of freight and baggage.



Piston Rings must be capable of expansion in order to fit snugly against the cylinder walls. For, cylinders vary considerably in diameter, even in the same engine.



This expansion is provided for in the Inland Piston Ring by the spiral cut. It always fits tightly because it uncoils like a spring.



Inlands make old motors *new*

When the cylinders of your engine become worn and "out of round"—it is then you most need Inland Piston Rings.

For Inlands readily adapt themselves to the variations of the cylinder walls.

The Inland is the only piston ring with a spiral cut. It uncoils and contracts like a spring—maintaining a snug, tight contact against the walls of the cylinder.

And, because made in one piece and cut spirally, it is entirely without gaps.

No oil or gas can leak through and cause trouble.

If your engine is old and runs poorly, look to your piston rings.

Samples on request to dealers, importers, wholesalers and manufacturers.

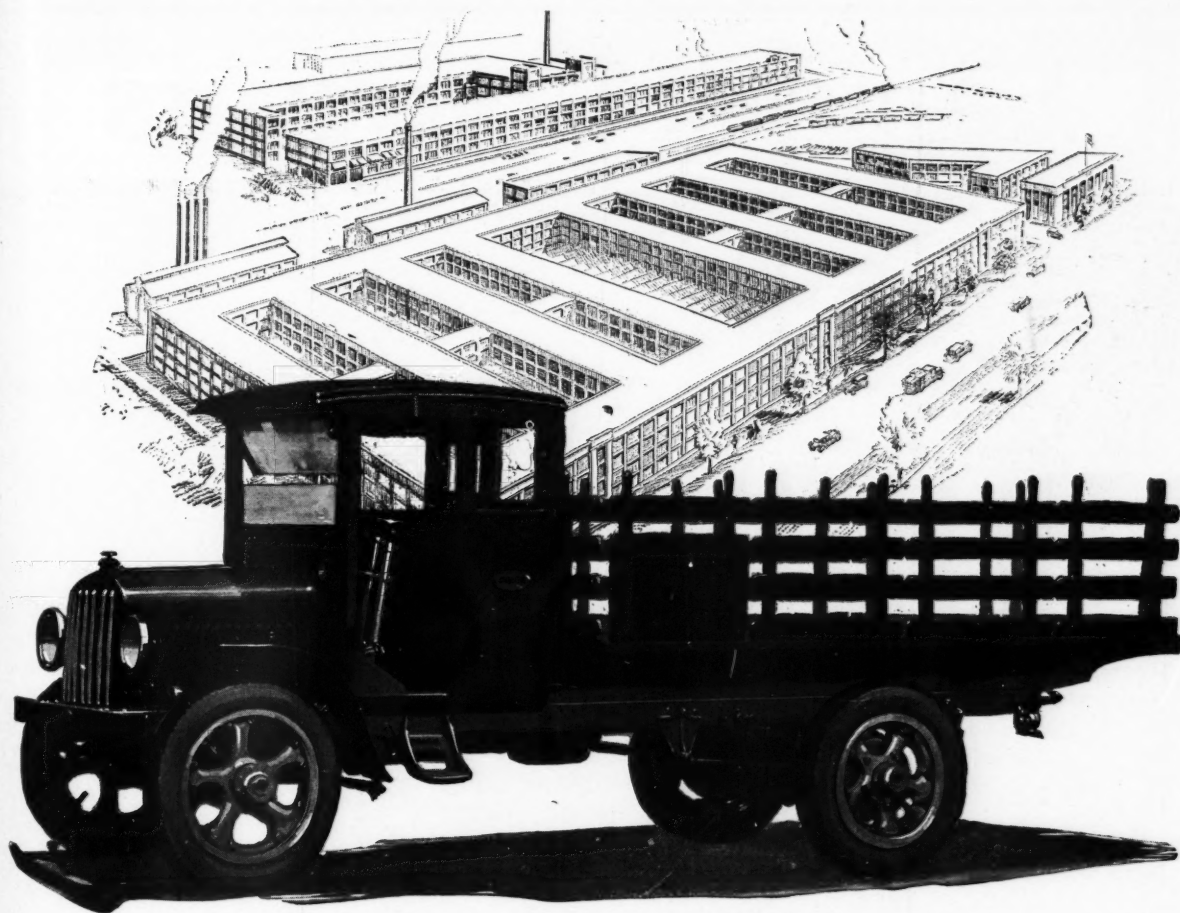
Inland Machine Works

1672 Locust St.

St. Louis, Mo.

INLAND

ONE-PIECE PISTON RING



A Truck and Its Traditions

There could be no more eloquent testimonial to the stamina of Paige trucks than their demonstrated ability to perform an unusually large quota of severe haulage tasks, day after day and week after week, with scarcely a lay-up for either adjustment or repairs.

Performance of such dependable character is naturally a source of great satisfaction to us. For we measure our success as truck builders not so much by the larger number of Paige trucks in use as by the service which each individual truck renders to its owner and, through its owner, to the business world at large.

We prize very highly the respect in which the name Paige has been held during all of the ten years we have been building motor vehicles. And we shall continue to follow the policy of building into our products such honest excellence that they will always merit the public confidence reposed in them.

The pride which we take in our products gives you definite assurance that when you buy a Paige truck its performance will be of the same high character as that of the many other Paige trucks which have made good in actual service. The Paige nameplate is a guarantee on which you can always safely rely.

PAIGE-DETROIT MOTOR CAR COMPANY, DETROIT, Michigan

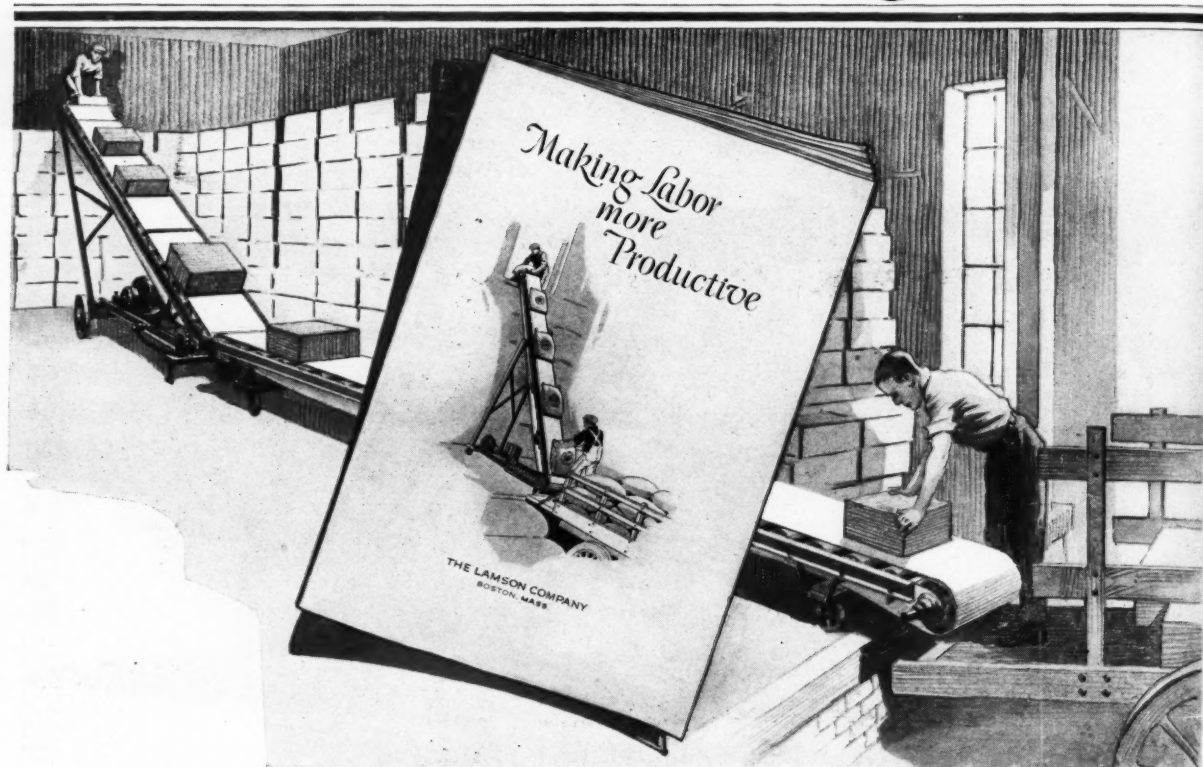
Manufacturers of Paige Motor Cars and Trucks

PAIGE

The Most Serviceable Truck in America

MOTOR TRUCKS

Lamson Conveyors



The Newest Lamson Conveyor

"MAKING Labor More Productive" is the title of a booklet announcing and describing the newest Lamson Conveyor, one use of which is illustrated above. It is a motor-driven portable conveyor, adaptable to an infinity of tasks indoors and out.

The type shown is a great money saver wherever boxes, cartons or bags are stored, whether it be used for piling or shipping out. In warehouses, store-rooms, docks, factories, barges, freight cars, the inclined unit will be found indispensable. The level type, in connection with an inclined conveyor, increases the range and flexibility, especially for loading and unloading.

The level unit, used independently, is a great labor saver around the warehouse, plant or yard, as

it is used for a hundred and one odd conveying jobs as they arise.

These portable unit conveyors are adapted to the handling of loose materials, such as grain, coal, sawdust, and metal scrap, by the use of trough rollers. They are sturdy, yet lighter in weight than other portable conveyors, so that they are very easy to move about on their easy-running wheels. They are electrically-driven, and are very inexpensive in operation.

The booklet, which is reproduced above, tells of some of the wide range of purposes for which the new Lamson Conveyor is fitted. Pin the coupon to your letterhead, mail it, and your copy will be sent immediately.

THE LAMSON COMPANY

100 BOYLSTON ST., BOSTON, MASS.

Branches and Service Stations

Boston . . . 100 Boylston St.	Omaha 418 McCague Bldg.	St. Louis . . . 709 Pine St.
New York . . . 9-11 E. 37th St.	Minneapolis . . . 320 Tribune Annex	Cleveland, 2063 East 4th St.
Philadelphia . . 210 N. Broad St.	San Francisco . . . 617 Mission St.	Cincinnati, 119 East 5th St.
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Buffalo 194 Main St.
Kansas City, 210 New Ridge Bldg.

THE LAMSON COMPANY

100 Boylston St., Boston, Mass.

Gentlemen: Please send me a copy of your new booklet, "Making Labor More Productive."

Name

Address

Business





Loading Packard Truck direct from freight car. The constant increase in hauling distance is making the uniform quality of Packard Trucks more valuable than ever before.

How Can the Truckman Keep His Advantage

WITH the tremendous increase in long distance hauling, the Truck Man's problem today is not how to get business but how to handle it *most profitably*.

Even when he makes generous allowance for the uncertainties of the road, a breakdown due to a defective part in a truck will turn a profitable trip into a losing one.

The Truck Man who will keep his present advantage is the one who gets *accurate figures* on

his *running costs*, and then standardizes on the truck showing the greatest economy.

Here are some facts, summarized [from the National Standard Truck Cost System operating in 16 cities.

There are more Packards used in Detroit and on the New York - Philadelphia route than any other make.

Packard Trucks show 10 per cent lower *gasoline* costs than any other. They show 30 per cent

lower repair costs than any other.

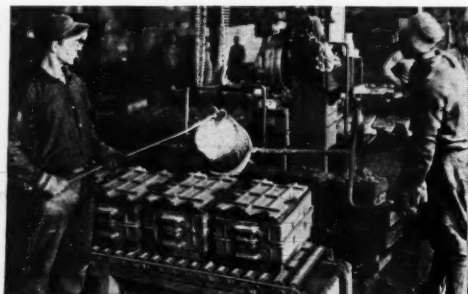
They show a *lower wage cost* per ton-mile transportation—make the trip in shorter time.

Ninety per cent of all truck owners who have used the *System* for a year or more and have compared the Packard with other trucks have standardized on Packard.

Such facts as these will grow more and more important as competition begins to eliminate the high operating-cost truck

"Ask the Man Who Owns One"

PACKARD MOTOR CAR COMPANY, Detroit

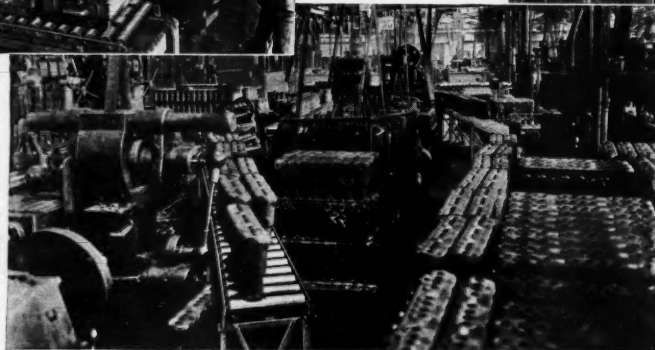


The Mathews keeps materials and products on the move—into, through and out of the shop and on to the cars.



The Mathews carries most anything most anywhere—and saves floor space doing it.

Chutes, automatic elevators, spiral and straight carriers are included in the Mathews systems.



Put Gravity to Work

The solution to a large part of your man-shortage and other operating problems is—*gravity*. Think of the abundance of this latent power about your plant. And as free as the air you breathe! Why not harness it with a Mathews Gravity Conveyor and *put it to work*?

Whether your particular problems are in the foundry, in the machine shop, in the storage yard, stock room or warehouse, in loading or unloading cars, a Mathews will put Speed and Economy into the job.

Our engineers can adapt the Mathews to *your* needs—no

matter how light or heavy, or how peculiar. For there's hardly a plant layout, floor plan, production route, receiving, shipping or storage system, which cannot be fitted—*profitably*!—with a Mathews.

A knowledge of all the things that can be accomplished with this steel-ball-bearing-roller Gravity Conveyor is a liberal education to any industrial head. Write us—*today*.

Mathews Gravity Carrier Co.

134 Tenth Street, Ellwood City, Penna.

Branch Factories:

Port Hope, Ontario London, England

MATHEWS
SPEED ECONOMY
GRAVITY ROLLER CONVEYER



GMC Quality Built In

This GMC Truck, specially equipped with a closed body of unusual capacity, is yielding a profit in transportation for Wm. Fridrich, of Cleveland.

Day after day it is on the job without delays or inconvenience.

All over the country GMC Trucks are being selected by distributors and warehouse men. The peculiar characteristics of GMC Trucks adapt them particularly to this kind of work.

Great power and flexibility in the motor give them the speed required for fast, snappy delivery.

Great chassis strength makes possible hauling the largest load with the least excess weight.

GMC Trucks are backed by the General Motors Corporation, one of the largest organizations in the automotive industry.

GMC service is available in every community.

Ability for hard work and economy of operation make GMC Trucks the ideal means of transportation for your line of business.

Let your next truck be a GMC.

GENERAL MOTORS TRUCK COMPANY

One of the Units of the General Motors Corporation

PONTIAC, MICHIGAN

The Economical Handling of Merchandise

is one of the greatest of industrial problems. The production of goods has been developed to the fullest—the sale of goods has been receiving the attention of business leaders for the past decade—and now comes for scientific considerations

The Distribution of Goods

Many a big concern loses a large percentage of its profits by not being familiar with existing facilities for the transfer and storage of its shipments.

The Transfer and Storage Directory (Third Edition)

should be in the possession of every traffic manager and shipper as well as on the desks of the officials of every storehouse and transfer company.

\$3.00 a Copy. Postage Prepaid

Contains data on how to compute warehouse rates according to the overhead expense; investment and income desired. How to base rates for handling commodities in and out of the warehouse.

Full particulars of warehouses and transfer companies throughout the United States and Canada, with names of officers, investment, capacity, facilities, railroad connections, etc.

Full Bound in Substantial Cloth. 386 Pages. (5 x 8 in.)

Distribution & Warehousing

239 West 39th Street, New York

DUPLEX TRUCKS

BUILT FOR BUSINESS



The Duplex Limited

Built to handle a normal load of 3000 pounds, or a maximum of 5000 pounds, including body, at a speed limited only by legal restrictions—or from 5 to 30 miles on high.

Such speed in the Duplex Limited does not depend upon gear ratio, but upon engine power—greater power, in fact, than is usually specified in trucks of equal capacity.

The Duplex Limited was constructed in response to the insistent demands of Duplex owners and dealers for a general purpose two-wheel drive, medium capacity Duplex Truck, designed and built to the high mechanical and proven service standards of the famous heavy duty 4-Wheel Drive Duplex.

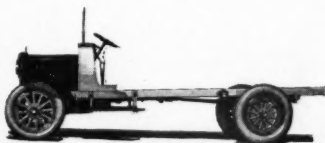
And the Duplex Limited is worthy of the Duplex name—for it is a Duplex, every inch of it, from tail light to radiator cap.

4-cylinder, enclosed type motor—water cooled—cast en bloc; bore, 4"; stroke, 5 1/4". 3-point suspension, pneumatic cord tires. 145" wheel base. Equipped with windshield, electric lighting and starting; ammeter; Boyce Motometer; speedometer; electric horn; tools; jack; rim wrench; front fenders; Alemite high pressure lubricating system. Driver's seat without extra charge. (Power tire pump at extra charge.)

Write for Booklets Describing the Duplex Limited

Duplex Limited \$2575.

F.O.B. Lansing.



DUPLEX
BUILT
FOR BUSINESS

Why Duplex 4-Wheel Drive Trucks Represent a Safe Investment To Warehousemen Who Haul Heavy Loads

Perhaps the greatest single reason for the phenomenal success of the Duplex 4-Wheel Drive Truck in Trucking and Warehousing is the fact that Duplex 4-Wheel Drive is designed to transport such loads and not merely be able to bear up under them.

It is one thing to make a truck strong enough to hold heavy loads—and another to build a truck that hauls such loads without undue strain on motor or chassis.

Power—applied power—in the wheels is the great secret of the tremendous hauling power of the Duplex 4-Wheel Drive.

There is motive power in every wheel—and the Duplex can keep going as long as any one wheel can find traction.

The front wheels of the Duplex 4-Wheel Drive do more than merely hold up the load. There's power in them—they pull at the same time that the rear wheels push—and the load travels on steadily and surely under conditions that would never even be attempted by a rear wheel drive truck of equal capacity.

The fact is the moving of heavy, ponderous loads calls for engineering principles and design and construction of a specialized character—calls for a truck designed and built especially to do that kind of work.

The difference is as basic and as fundamental as the difference between an ordinary switching locomotive and the big, extra heavy type for freight hauling over the mountains.

For example, Duplex 4-Wheel Drive Gear Housings are on top of the axles—no danger of striking on stones, stumps or ruts. There is 14 inches of clearance as against the ordinary 9 inches—which permit traveling over roads or through mud that simply hold up the average truck.

The Duplex 4-Wheel Drive Truck is not a speed wagon or a general utility truck. It is designed for heavy loads; for hard going; and in this field it is to-day generally admitted to be a leader.

It is a heavy duty truck—and it can stand heavy duty because that is what it is built for. And it is built and backed up by one of the oldest and most successful truck companies in America to-day. That's why the Duplex 4-Wheel Drive is a safe buy.

Write us for folder—and owners' experience. Talk to the Duplex dealer. He is a practical truck man and he has facts that you ought to know about the hauling of heavy loads.

Duplex 4-Wheel Drive, 3 1/2 Ton
Capacity, \$4,250 f.o.b. Lansing

Duplex Truck Company
Lansing • Michigan

One of the Oldest and Most Successful Truck Companies in America

The Economy of Chains

EVERY time a truck wheel slips and skids about in mud or sand; every time it gets stuck in bad going it's wasting money—in time, tires and fuel.

Every loss of tractive effort is traceable to smooth wheels on slippery surfaces—and is cutting down gas mileage and tire mileage.

In service the Holmes Tire Grip for either single or dual tires will quickly repay its cost—in time, tire and gas savings alone.

HOLMES

TIRE GRIP—

will not tear tires.
will not catch in brakes.
will not catch in car tracks.
will not cause vibration.
cannot fly off and get lost.

Keeping trucks going is the secret of economical operation—HOLMES GRIPS keep them going.

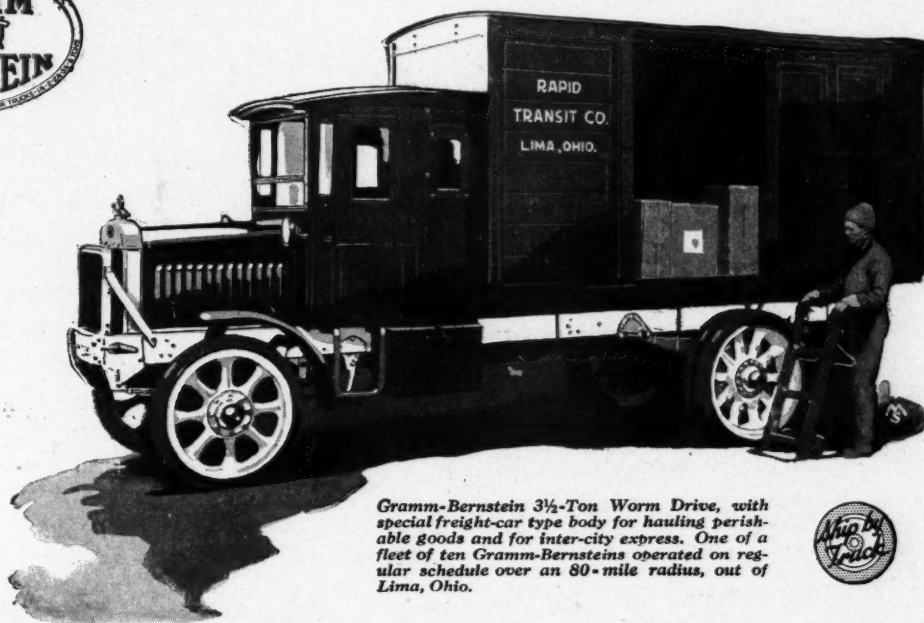
Write us if your dealer can't supply you.

The HOLMES GRIP CO.

Shelton

Connecticut

GRAMM-BERNSTEIN TRUCKS



Gramm-Bernstein 3 1/2-Ton Worm Drive, with special freight-car type body for hauling perishable goods and for inter-city express. One of a fleet of ten Gram-Bernsteins operated on regular schedule over an 80-mile radius, out of Lima, Ohio.



Truck Saving That Never Ends

Gramm-Bernstein economy of operation and upkeep is so unusual that it has become almost proverbial among our owners.

Now a new saving is added. This is the saving of \$500 to \$550 in equipment which is included in the cost price of the truck.

No Gramm-Bernstein Worm Drive requires anything but the body to be ready for work.

All the equipment we supply is essential. Every truck should have it. The items are bought and paid for as extras on any truck but this.

But this saving, clear and clean as it is, is small by comparison with the continuous economy that signalizes the years of Gramm-Bernstein use.

Nothing but superior engineering can account for this greater economy.

Superior engineering, coupled with 20 years of truck-building, produces a *better* truck, that does *better* work at *lower* cost, and itself is *longer-lived*.

We do not believe we could overstate our case, even did we desire to do so.

The Gramm-Bernstein record speaks for itself. The truck always did save more. Now it saves more than ever.

Our dealer will be glad to come, at your call, and present the facts which every business man should have before he buys any truck.

All Gramm-Bernstein Transmissions are trouble-proof and are provided with a pad for attaching Gramm's Basic Patent Power Take-off. Dealers and truck owners should assure themselves that any trucks purchased with power take-off do not infringe B. A. Gramm's Basic Patent No. 1194994

The Gramm-Bernstein Motor Truck Co., Lima, Ohio

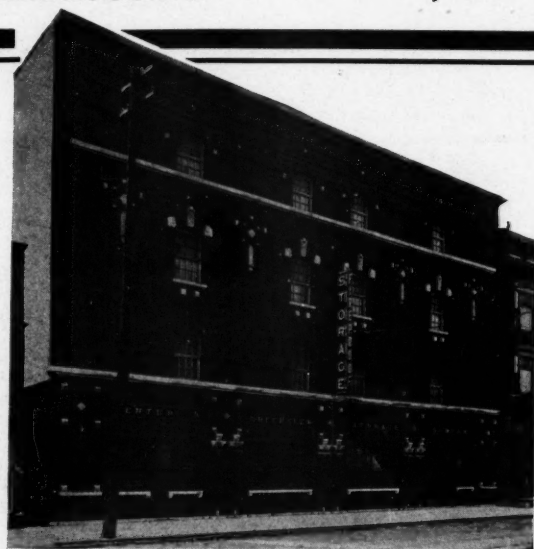
Pioneers Since 1901—Builders of the First Liberty (U. S. A.) Truck

The Advantage of Experience

Our knowledge of the warehousing business coupled with the experience gained by the designing and constructing of more than 25 warehouses for the following list of clients, is your assurance, that you will receive from this organization the utmost in utility and appearance in any warehouse architectural work entrusted to us.

- 3 Warehouses for Hebard Express & Van Co., Chicago.
- 7 Warehouses for Werner Bros. Fireproof Storage Co., Chicago.
- 4 Warehouses for W. C. Reebe & Bros., Chicago.
- 2 Warehouses for Von Sydow Fireproof Warehouse Co. Chicago.
- 3 Warehouses for Iredale Fireproof Warehouse Co., Evanston, Ill.

We have also designed warehouses for:
Wenter & Drechsler Storage Co., Oak Park, Ill.
Jackson Express & Van Co., Chicago.
Siebold-Schaeffer Co., Chicago.
Nelson & Westerborg Storage Co., Chicago.
John E. Huffmeyer, Chicago.
Westfall Storage & Van Co., Chicago.
Miller's Buena Park Express, Chicago.



WENTER & DRECHSLER STORAGE CO.
WAREHOUSE—OAK PARK, ILL.

Before you plan that new warehouse investigate the kind of service we have to offer.

GEO. S. KINGSLEY

ARCHITECT

109 N. Dearborn St.,

Chicago, Ill.

Low Priced Sheds Will Better Your Service and Build More Business



Showing Interior of Unit Storage Building



Oil Storage Building



Merchandise Storage
or Overflow Building

Increasing demand for temporary ground storage makes less expensive building essential.

Prudential Steel Buildings are the sturdiest fireproof movable buildings it is possible to manufacture at low cost.

No one can afford to use all his working capital for costly buildings.

Short time storage prohibits use of high priced space. No man can afford to pay big bills for cotton storage or machinery space, when all he wants is to prevent weathering. No

heat; no stacking; no sales service needed.

Prudential Buildings are adapted to implement and machinery storage, to heavy merchandise for ground storage, to short time in and out storage of cotton, grain, canned or sacked products. They are movable at will.

They are made on the unit plan. Assembly is a matter of a few hours—days at most.

Let us figure on your problem. We can show you where we can serve. Write us today.

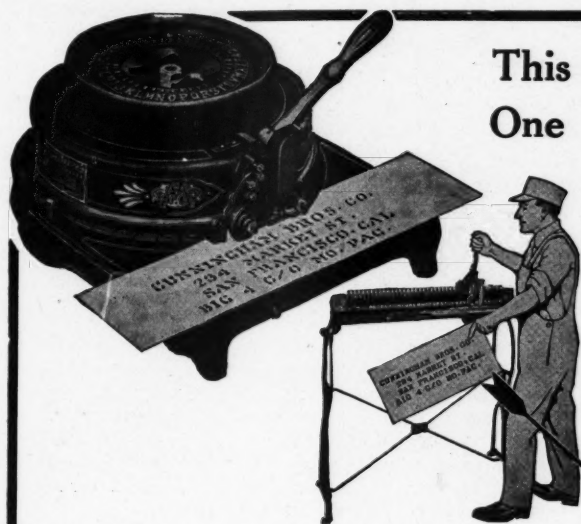
Ask for Catalogue Section No. 40

The C. D. Pruden Company
"Station C," Baltimore, Md.

165 Broadway, New York City



This Bradley Stencil Machine and One Boy Will Do the Work of Three Markers



And do it with black, clean cut accuracy that is straight insurance that your shipments *will go through*. No sidetracking or delay due to careless illegible marking. Follow the arrow and you will see the actual work—just as you can have it done in your place.

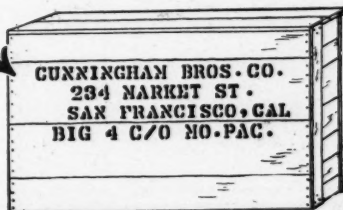
This is a startling economizer of Time, Money and Labor. You prove it on the following proposition:

Write us today and we will send you a "Bradley" ready for use—300 stencil cards, Patent Ball Marking Brush, etc. PREPAID. USE IT FOR A MONTH AT OUR EXPENSE. Then, if it doesn't cut cardboard stencils faster than any other machine or any expert can do them—SEND IT BACK. (No quibbling or correspondence on our part)—and we will pay Return Freight.

This is the biggest promise and the fairest proposition you have ever had. Order The Bradley Stencil Machine—NOW. You are losing Big money every day you wait.

BRADLEY STENCIL MACHINE CO.
3744 Forest Park Boulevard St. Louis, Mo.

Note the Clarity of Bradley Stencils



If It's
Made
of
Canvas
We
Make
It

Quality and Service
is Our Slogan



Write
for
Stock
List
and
Catalog

Waterproof Storm Covers for Auto Trucks, Wagons and Horses, Tarpaulins, Dust Covers, Piano Covers, Victrola Covers, Tents, Horse Feed Bags, Radiator and Hood Covers, Furniture Loading Pads, Van Liner Pads, Canvas Pads and Bags of every description.

Large Stock—Prompt Deliveries

RICHARDS MFG. CORPORATION,

Philadelphia, Pa.

MAIN OFFICE AND FACTORY: 948-952 NORTH 8th STREET

Trailmobile.

Trade-Mark Reg. U. S. Patent Office



Semi-Trailmobiles for use with short wheel-base trucks in city hauling are equipped with an exclusive fifth-wheel mechanism which makes coupling automatic. They are made in 2½ ton, 4 ton, 6 ton and 10 ton sizes.



Heavy duty four-wheeled Trailmobiles for use behind trucks of the usual wheel-base are made in 1½ tons, non-reversible; 2 tons, 3½ tons and 5 tons reversible and non-reversible.



Pole Trailmobiles for logs, poles, pipes and load of great length are made with adjustable chock blocks, length compensating springs, and other important mechanical features in 2 ton, 3 and 5 ton capacities. In each case the truck carries an equal load.

Bigger Loads at Lower Costs

There are Trailmobiles of many types for a wide variety of hauling uses.

Semi-Trailmobiles with short wheel-base trucks are especially adapted for use in cramped quarters. They can be uncoupled for loading while the truck goes away with another Semi-Trailmobile. A short turning radius makes manipulation easier in narrow streets and about loading platforms. The driver has a lighter truck to handle.

Pole Trailmobiles are used for hauling logs, pipe and similar material of extra length. Half the load is carried on the truck and half on the Trailmobile.

Four-wheeled Trailmobiles of light and heavy sizes are used behind trucks of the usual wheel-base. They may be used in regular service to double truck capacities, or to take care of occasional large loads, or a seasonal rush of hauling.

All of these Trailmobiles double the capacity of the hauling vehicle; double the work the driver accomplishes with no more effort; and increase operating cost only about 12½ per cent.

Write for booklet, "Economy in Hauling"

The Trailmobile Company

515-535 E. Fifth Street

Cincinnati, Ohio

Good roads are preserved by reducing the load carried on each wheel

MAGIC SCRATCH REMOVER



If each of your packers and van men has a Magic Scratch Remover in his pocket, it will save you hundreds of complaints and tons of grief.

It is simple to use and requires no work at all. Just rub over the scratch and it's gone forever.

FREE TRIAL OFFER

Mail this ad with your letter head and we will send you a half dozen postpaid, strictly on approval. See for yourself how quickly they hide scratches, bumps, bruises and mars on any kind of finish.

If the Magic Scratch Removers **make good** send us \$2.60 and they are yours.

On the other hand if you are displeased for any reason whatsoever, return the shipment at our expense and the trial costs you nothing.

You can't lose on this proposition. Take advantage of it **TODAY**.

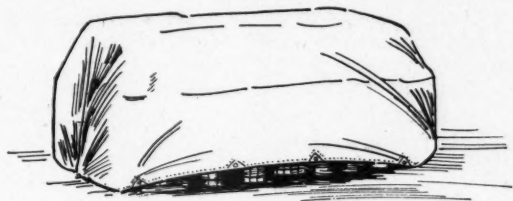
The M. L. Campbell Co.

708 East 19th St.,

Kansas City, Mo.



ARE READY FOR YOU



Sales Agents

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Box 438, Greenwich, Conn.

JOHN F. LYNCH
217 W. Madison St., Baltimore, Md.

Keystone Canvas Goods & Flag Co.
1012-1018 Filbert St. Philadelphia, Pa.

The Keystone Canvas Goods and Flag Company is ready to serve you with the best products made.

Keystone Waterproof Storm Covers

For motor trucks, wagons and horses have the ace-high quality that makes them dependable defense against weather's ravages. Radiator and hood covers suited to any need you may have are part of the Keystone line. Write us about your particular needs. Other Keystone quality products you should know and use are:

Coal Sacks	Mailing Sacks
Horse Covers	Piano Covers
Van and Loading Pads	Dust Covers
Tarpaulins	Caster Bags
Victrola Covers	Oil Skin Cloths

Prompt deliveries assured. Prices on all these products are right prices. There is a Keystone service station near you. Write us for quotations in your vicinity.

KEYSTONE COVERINGS

GIFFORD-WOOD CONVEYORS

Are Speeding-up Production

Their use has been introduced in an endless variety of industries—and in every case their time-saving performances have meant greater output. In loading and unloading, and in dispatching bulk materials they are everywhere giving absolute satisfaction.

Gifford-Wood Co.

Main Office and Works: HUDSON, N. Y.
NEW YORK BOSTON CHICAGO BUFFALO PHILADELPHIA

We Design and Build

Elevators—Conveyors
Power Plant Coal Handling Equipment
Coal Pockets
Locomotive Coaling Stations
Wagon Loaders
Bagging Loaders
End Thrust and Straight Faced Hoists
Screens—Chutes
Buckets
Chain

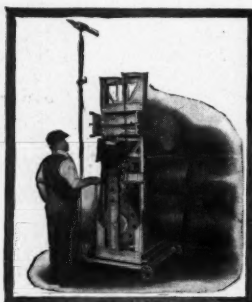
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GIFFORD-WOOD CO.

Combination Revolvator



OPERATED BY HAND



OPERATED BY MOTOR

The electric motor attachment shown below can be attached to any Hand Revolvator, or to any other type of tiering machine, without interfering with the hand operation.

One machine for a double purpose

It may be operated from the electric lighting circuit in many cases, or by hand at points where no current is available.

With it, two men can do the work of a gang, quicker and without confusion. This saving of time and man-power means a decided economy—with labor scarce and expensive.

The Combination Revolvator can pile clear up to the roof, making available the large upper storage areas that cannot be reached by hand piling.

The Revolvator is made in nine models: hand, motor, and combination hand and motor operated; all in both Revolvable and Non-Revolvable types. With the Revolving type machine, the loading platform can be swung around for loading or unloading from any side.

All Revolvators are mounted on wheels, and can be shoved from place to place by hand.

Our Bulletins tell more.
Send for them.

REVOLVATOR CO.

Sales Agents for N. Y. Revolving Portable Elevator Co.

389 Garfield Ave., Jersey City, N. J.

2016-V

REVOLVATOR

"A Winning Team"

CONNEERSVILLE

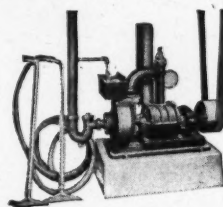
Scrubbing Machines and Vacuum Cleaners

You can't afford to be without a modern carpet cleaning department.

The *Connersville* team is a money making, carpet cleaning outfit. With it you can renovate rugs by the popular vacuum-shampoo process. After a gentle shampooing with a scrubbing machine the suds and dirty water are thoroughly removed with the vacuum cleaner.

It will pay you to put this *team* on your payroll.

Write for full information.



LANDERS, FRARY & CLARK

United Vacuum Appliance Division

CONNEERSVILLE

Dept. I

INDIANA

GET OUR LIST OF USERS

Save Time and Labor
Sawing
Boxing
and
Crating
Lumber



This neat, compact saw can be hung up against any convenient wall or column, thus taking up no valuable floor space.

The Reliance MOTOR DRIVEN Swing Saw

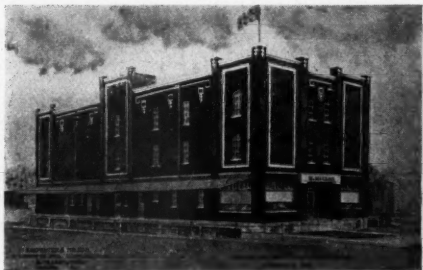
will save the time and energy of hand cutting—do the work much better and faster—and, being self contained, can be placed anywhere, regardless of power supply.

Easily installed by anybody. Direct or alternating motor. Built in three sizes, to accommodate any class of work. Tell us your requirements and we will submit proposals.

Reno-Kaetker Electric Co.
4600 SPRING GROVE AVE.
CINCINNATI, OHIO

YOUR COMPETITOR HAS ONE

ARCHITECTURAL SERVICE



Cold Storage Warehouse
S. Miller Fruit Co., Marshfield, Wis.

A COLD STORAGE WAREHOUSE is a COLD proposition—so is any warehouse when considered in the light of COLD FACTS.

When contemplating new buildings or extensions of present plants, secure the advice and services of a competent organization, whose experience enables them to analyze the peculiar aspects of the problem at hand and to recommend the most ADEQUATE, and therefore the most ECONOMICAL solution.

We furnish complete service, plans and specifications for up-to-date practical warehouses.

CARPENTER & WELDON

30 N. LA SALLE ST., CHICAGO

CRANE PULLER FOR HEAVY TRUCK WHEELS

A
REAL
TIME
SAVER
WHERE
TIME
IS
MONEY



GUARAN-
TEED
TO LAST
A
LIFE-
TIME

ONE Man can remove the heaviest Gas or Electric Truck Wheel in 15 Minutes with this PULLER.

Write for Catalog Z
ORDER FROM YOUR JOBBER

CRANE PULLER COMPANY

54 Lake St.

Arlington, Mass.

IF IT'S PROPERLY COVERED
IT CAN'T SCRATCH

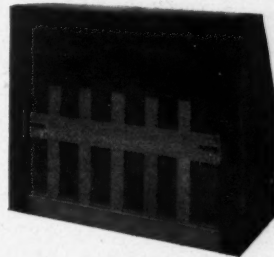


Illustration shows our "cap" style—easy to put on.

DUXBAK PIANO COVERS

Heavy brown tarpaulin canvas lined with strong canton flannel.

Our grand piano cover has leather nose, double sole and ten handles. Any square foot of this cover will support the entire instrument.



BUCKSKIN

VICTROLA

COVERS

Made of tough, soft khaki drill, lined with strong canton flannel. Heavily padded and stitched.

Large size fits instruments corresponding to Victrola No. 14-16.

Small size fits instruments corresponding to Victrola No. 10-11.

Furnished with or without harness.

Cover illustrated has our eight-handle harness permanently attached. Always ready.

Each strap and buckle warranted to stand 1000 lb. strain.



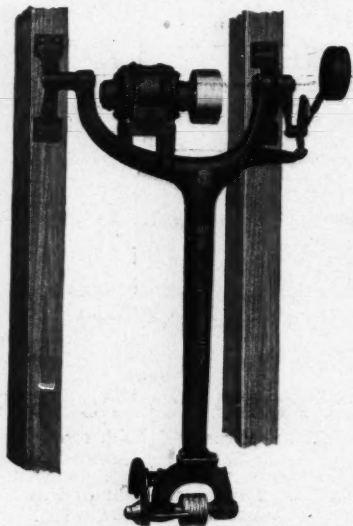
BUCKSKIN FURNITURE PADS

Made of tough, soft khaki drill, stuffed with new cotton, thoroughly stitched. Popular sizes: 18 x 72, 36 x 72, 54 x 72, 72 x 72.

The N. Y. Tent & Tarpaulin Co.

388 Atlantic Ave. Brooklyn, N. Y.

Quality First—Service Always



PROMPT
SHIPMENT

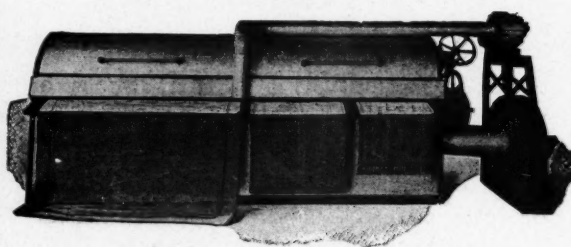
No. 6 Motor Driven Swing Cut-off Saw

A rapid and accurate cutter. Counter-weight gives quick return to saw, self-centering device for saw, self-oiling boxes. Machine carries blades up to 20-in. without vibration. Write today for Bulletin of motor-driven and belted Swing Saws.

JOHN T. TOWSLEY MFG. CO.
1010 Evans St., Cincinnati, Ohio

Because there is Big Money in It

storage and warehouse
companies are installing
this big rug cleaning
machine

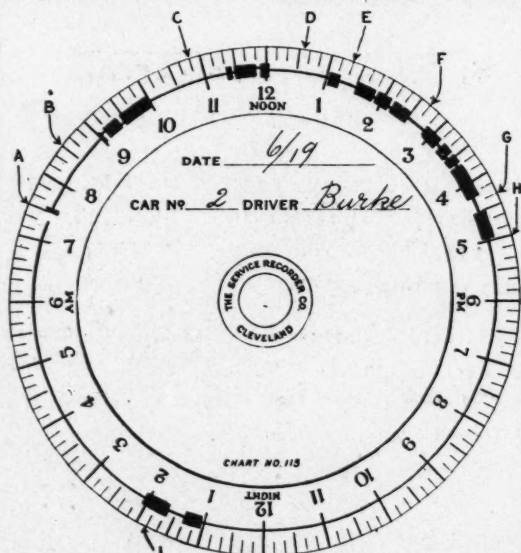


The most perfect Rug Cleaner made

The Cleveland Laundry Machinery Mfg. Co.
CLEVELAND, O.

What's Your Truck Doing All Day?

Here are the facts of one day's operation—facts that the truck owner didn't have to "go out after," but facts which were brought to his desk on the Servis Recorder Chart pictured below.

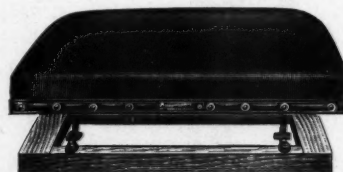


Daily Servis Recorder Chart (much reduced). Heavy mark shows when truck is in motion; narrow line shows truck standing still.

A—truck started at 7:30. F—held up 20 minutes (drawbridge).
B—hour and 25 minutes to load. G—stopped 15 minutes (somewhere on return trip. Ask about).
C—hour and 20 minutes (at freight depot). H—put up at garage at 5:00.
D—a lunch hour. I—taken out during night.
E—fifteen minutes (loading).

Write for Booklet

THE SERVICE RECORDER COMPANY, CLEVELAND



FLEXO SEATS

The unusual durability and comfort of Flexo Seats are due to exclusive features that make them the most economical.

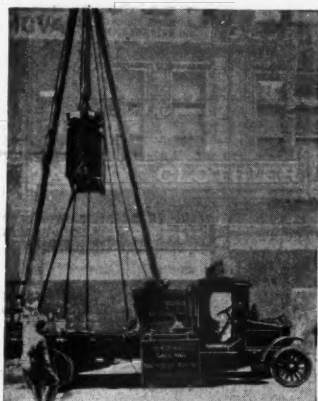


We guarantee them, for five years.

When you buy a truck, specify the seat that wears longest and eliminates backache and kidney affection — Flexo Seats. If you operate trucks have Flexo Seats installed today.

**THE
FLEXO
SEAT
CO.**

688 E. Water St.,
MILWAUKEE, WIS.



HOW ARE YOU BEATING COMPETITION ON SPECIAL HEAVY JOBS?

Equipping your heavy duty trucks with Mead-Morrison Truck Winches (either Horizontal, Drum, or Vertical Capstan type) will enable you to send out two men on a job that now takes double that number or more.

Think of the jobs you might get if you could figure on this basis regularly.

Mead-Morrison Truck Winches are making money for many truckmen by increasing their profit-producing business.

Many truckmen have told us of the particular advantages of Mead-Morrison Truck Winches for handling unusual jobs—how they made money under difficult conditions because their trucks were Mead-Morrison equipped.

Write in for their story and for the name of our nearest Distributor.



MEAD-MORRISON MFG. CO.

327 Prescott Street

East Boston, Mass.



BREEN'S

PIANO DERRICK

What Everybody Needs

PIANO MOVERS find that the hoisting and lowering of pianos is made easy, safe and economical by the use of this practical, adjustable Window Derrick. Handy to carry, easily put in place by one man, always ready and quickly utilized.

It is a practical patented invention, which has been in use for twelve years and has demonstrated its value beyond question. It clamps to window. There is also a swing under bar which is placed under outer end of piano and carries it in or out.

Every mover of safes, pianos or heavy merchandise needs Breen's Piano Derrick because it saves the strength of the men, means a tremendous saving of time, and obviates jams and scratches. Several firms have taken out third story window, set the derrick in place, hoisted piano, and replaced window in 25 minutes.

Also manufacturers of Belts and Bars to hoist Pianos and Ropes, Blocks and Piano Covers.

Write to-day. Catalogue for the asking.

WM. H. BREEN

219-231 Rutherford Ave., Charlestown, Mass.

WAREHOUSE EQUIPMENT

WE MEET YOUR REQUIREMENTS

IN

Furniture Pads, Canvas Covers, Piano Covers (for shipping and storage), Taraulins, Truck, Wagon, Horse and Talking Machine Covers.

SAXOLIN Duplex is a flexible packing, wrapping and case-lining material. Better than burlap because it is Vermin-proof, Water-proof and costs less.

Write Us Your Requirements
So We May Quote You Prices

The Cleveland-Akron Bag Co.
Cleveland, Ohio

This CANTON PORTABLE CRANE Has the Fairbanks O. K.

The
Handiest
Tool in
The
Shop



Because it is built to a quality standard—not to a price. It has the O. K. of every user, not only because of its strong construction, but because *one* crane lifts and moves the heavy, awkward pieces that formerly wore out six men in handling—and does it in less time. Its extra strong base casting, projecting arms and gears are made from a mixture of cast iron and steel

—carefully finished and well fitted by expert mechanics. It is tested and guaranteed to *safely* lift its rated load. And they are made in sizes that fit the needs of any warehouse.

Let a Canton Crane take the load off the men and make *one man's time worth six*. Get our free booklet containing money saving ideas for warehouse owners—get the particulars—write for them now.

The Canton Foundry & Machine Co.
CANTON OHIO

Permanent Exhibit Salesroom,
Grand Central Palace, New York

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A Dealers' Journal, devoted principally to the *Distribution or Merchandising* of Automotive Products and Equipment. In conjunction with Motor Age, covers nearly 90% of the principal Dealer field.

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A Dealer's Journal, devoted principally to *Service and the Maintenance* of Automotive Apparatus and Equipment. In conjunction with Motor World, covers nearly 90% of the principal Dealer field.

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The oldest motor boat publication in the world. Read by Boat Owners, boat builders and supply dealers.

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The Oldest Truck publication in the United States. Read by Fleet Owners, their Traffic and Garage Managers. The logical medium for an advertiser who wishes to reach the real, important truck users.

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The only automotive export paper going exclusively to Dealers and other members of the Automotive Trade in Latin America.

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Reaches 75% of the purchasing power wielded by the Transfer & Storage Industry, Transportation Companies, Pool Car Distributors, Public Merchandise Warehouses. A wealthy and active field needing Trucks, Labor Saving Devices, Warehouse Equipment, etc.

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A quarterly publication containing special current information for Tire Dealers—price lists, types, sizes, etc. In constant use by practically all principal tire distributors.

THE CLASS JOURNAL COMPANY

CHICAGO NEW YORK
Philadelphia Cleveland Detroit

TRADE **YALE** MARK

Testing a One-Ton Yale Spur-Gear Chain Block

*Safety is Certified in
Every Yale Chain Block*

EACH Yale Chain Block must lift a test load 50% over its rated capacity before it can leave the factory.

That means certified safety, safety that warrants confidence in the Yale Chain Block as the safest block for every hoisting need.

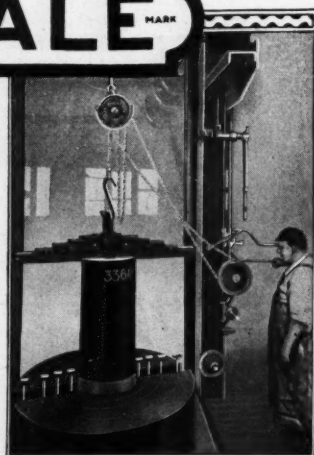
For complete information regarding the Yale Spur-Gear Block, Yale Screw-Gear Block, Yale Differential Chain Block, and Electric Hoists, ask for our new 19D catalog.

*For a factory locking system
use the Yale Masterkey System*

Write for particulars

The Yale & Towne Mfg. Company

Makers of the Yale Locks
Stamford, Conn.



Chain Block, March A

G. W. Jones Lumber Co.

807 Lumber Exchange Building
CHICAGO

Manufacturers of
CRATING AND BOXING LUMBER OF ALL KINDS

We refer you to the leading warehouses in Chicago as to the quality of stock we ship.

Wholesale Prices Stock Guaranteed

A TRIUMPH is your BUCKEYE SILL PIANO TRUCK

says an owner of four of them
SELF-LIFTING PIANO TRUCK CO., Findlay, O.



End
Truck
Covers

Straps

EXCELSIOR PACKING PADS ARE LIKE INSURANCE

YOU pay only a small premium charge for the best protection obtainable. Don't think of them as an expense, consider the loss and inconvenience of claims for damage and the satisfaction of knowing that anything you ship will reach its destination exactly as it left your hands. You will incur no obligation by getting our samples and prices.

H. W. SELLE & CO.

Manufacturers

1000-1016 N. Halsted St., CHICAGO, ILL.



Save Money, Time and Labor by Using

"THE HOLYOKE" Transfer Truck

One Man and this truck performs the work of Four Men.

Various models to suit every variety of work.

All strongly built and sold under a liberal guarantee.

Write for Circular B-1

Holyoke Truck Company

Main Office and Factory

105 Race Street, HOLYOKE, MASS.

Export Department:

77 Broad Street, New York City



SAFETY Columbia Elevator Gate

Reduces Your Liability

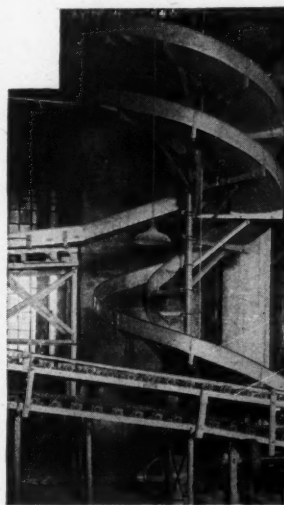
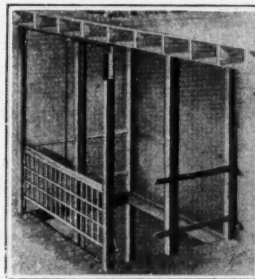
The Columbia Semi-Automatic Gate is without question the most practicable and *reliable* self-closing elevator gate made—and reduces employers' liability. It is simple in operation and durable in construction.

The gate is carefully counterweighted and can easily be raised by hand—but closes instantly when the elevator leaves the floor level. The Columbia Gate can be used in connection with any kind of elevator.

Let us submit estimates on your particular elevator gate problem. Prices and detailed drawings on request.

Richmond Safety
Gate Company

Richmond
Indiana



With Help Scarce
AND
Wages High
NOW
Is the Time
when the need
for our
LABOR-
SAVING
SPIRAL CHUTES
VERTICAL LIFTS
AND
MERCHANDISE
CONVEYORS
is imperative

Owned by
The Haslett
Warehouse
Co., of San
Francisco,
the develop-
ment of
handling

problems in our own fourteen general merchandise storehouses has enabled us to give practical advice to warehouse and terminal concerns. We are at your service.

Through long experience we have learned how to combine every form of merchandise conveyor so as to obtain the most practical results.

When no standard form of conveyor is adequate, we design special machines.

When you want information on conveyors, write us. We can help you.

Haslett Spiral Chute Co., The

Factory: Madison and 20th Sts., Philadelphia, Pa.
Southern Office: 523 Calvert Bldg., Baltimore, Md.
Pacific Coast: 228 Pine St., San Francisco, Cal.

**Renew the Power and Life of
Your Engine**
by having the
Cylinders Reground
and equipped with new
Pistons—Piston Pins—Piston Rings
by the
Butler Manufacturing Co.
1124 E. Georgia St., Indianapolis, Ind.

20% Feed Bill Saver

This means if at present you are feeding 4 qts. to each horse per meal, by feeding crushed oats you save 2.4 qts. The yearly saving is 27 bushels, and figuring oats at 55 cents per bushel means \$15.00 saved on each horse. Just multiply this on each horse you have.

Crushed oats produce bone and muscle and keep horses in better working trim with more staying power, because Crushed Oats gain over whole oats from 15 to 25 per cent in nutriment.

The National is the most economical crusher to do this work—the power consumed costing about 10 cents per horse per month. It frees the food from foreign particles. This crusher will crack corn at the time it's crushing oats. Write for our money-saving booklet on crushed oats feeding—it's free. Write now.

National Oat and Corn Crusher

made by Excel Mfg. Co., Pottersville, N. J.

Established 1875

Canvas Covers

For Wagons and Trucks

COVERS and TARPAULINS for All Purposes

Awnings, Tents, Flags, Spray Hoods, Yacht Sails, Boat Covers, Mill Aprons, Canvas Bags

L. NICKERSON

173 STATE ST., CORNER COMMERCIAL
BOSTON, MASS.

Cracked Water
Jackets and
Cylinders

Permanently repaired at
great saving of time
and expense with

**Peters' Metallic
Filler**

A low metal compound,
melting at 300°F. No
risk of warping or dis-
torting the casting.
Many repairs can be made without dismantling motor.

Price \$5.50 per lb.
Write for booklet "Information for the Expert Mechanic"—
sent free.

Aluminum Brazing Solder Company
Widener Building Philadelphia, Penna.



We specialize in
Furniture Pads and Covers

Write us today for prices
and we will submit samples.

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TOLEDO, OHIO

**With This Seal You Get Bet-
ter Protection Than With
a Dozen Locks**

The Brooks Patented Tin-Bottom Seal defies all efforts at tampering. Unlike the finest lock, it cannot be "picked." Patrons are guaranteed protection to their goods stored in warehouses using Brooks seals. Warehouses using Brooks Seals are free from complaints. The unbroken seal, its number being verified, leaves no doubt that any package, trunk, or container is as originally sealed.

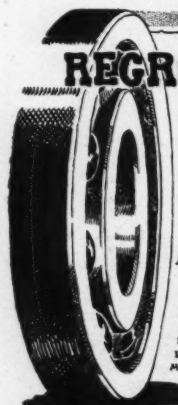
We produce metal strip seals for use in the same or variety of other uses. Let us know your needs. Write us for quotations.

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from the companies listed in
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wires" of the field and will han-
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and efficiently.



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OUR REGRINDING PROPOSITION
WILL CUT DOWN YOUR BALL
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BE CONVINCED. SATISFACTION

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AHLBERG BEARING COMPANY
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PROVIDENCE
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ST. LOUIS - OMAHA



If you don't find what you want here, your advertisement here will find it for you.

This Exchange section serves a real purpose in the industry by affording a central market place for the disposing of equipment no longer needed, and the securing of special apparatus at bargain prices. If you have any equipment for sale or wish to sell your business, this section is the logical place to advertise. All advertisements in this section will be accepted at a flat rate of three cents per word for each insertion.

FOR SALE.—Part interest or the entire established storage and moving business in Newark, N. J. Good opportunity for party who will take an active interest in the business. Address Box 565, DISTRIBUTION & WAREHOUSING, 239 West 39th St., New York, N. Y.

WANTED by a growing furniture warehouse and trucking concern a man capable of handling a large volume of business and taking entire charge, if necessary. Only a man of experience and ability in handling men will be considered. Address Box 570, DISTRIBUTION & WAREHOUSING, 239 West 39th St., New York City.

SITUATION WANTED.—A man with eleven years' executive experience in forwarding and warehousing is open for connection as manager of warehouse business, or would consider position as distribution manager for a manufacturer. Address Box 568, DISTRIBUTION & WAREHOUSING, Mallers Bldg., Chicago.

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WE WANT TO SPEND \$25,000 CASH for unclaimed merchandise left in storage. We will buy for spot cash. Novelties of all kinds, household specialties, toys, knick-knacks, books, post cards, jewelry, pictures, patented articles, "fool" inventions. Anything of which there is a large quantity. Send sample and say how many you have. Our spot cash offer by return. Address Fantus Brothers, 525 So. Dearborn St., Chicago, Ill.

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D. P. KAERCHER
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The Jaqua-Detroit Phonograph Cover

made by
Detroit Canvas Manufacturing Company

This Jaqua-Detroit phonograph cover, made in two sizes, No. 1 small, No. 2 large, is a heavy brown canvas cover, padded, quilted and heavily fleece lined. It has shoulder straps and under straps so one man can easily carry the machine when covered. There is a special flap at the top, with a grommet, for shipping tag.

Other Jaqua-Detroit products include:

- Water proof storm covers for horses and wagons,
- Auto truck radiator and hood covers,
- Fleece lined piano covers,
- Table top pads,
- Furniture and van pads.

The Jaqua-Detroit furniture pad is a particularly economical buy at the present quotation, \$34 a dozen. Of heavy cream color drilling, sewed in squares from the center. These 60" x 72" pads will give long service and ample protection—a good buy at any time, a better buy now at this price.

Practical ideas, high quality of materials, skilled workmanship and modern manufacturing facilities are combined by the Detroit Canvas Manufacturing Company to make unexcelled products. We solicit the opportunity to demonstrate to buyers in the transfer and storage industry the money-saving ideas and practical utility built into Jaqua-Detroit goods.

Detroit Canvas Mfg. Company
245-247 Larned St., East Detroit, Mich.

JAQUA-DETROIT

PHONOGRAPH COVER

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Furniture Loading Pads

PIANO COVERS

TABLE TOP COVERS

VICTROLA COVERS

VAN LINER PADS

PIANO TRUCKS AND FULL EQUIPMENT FOR HOISTING

WATERPROOF AUTO TRUCK COVERS

WATERPROOF WAGON COVERS

BURLAP — TWINE — ROPE

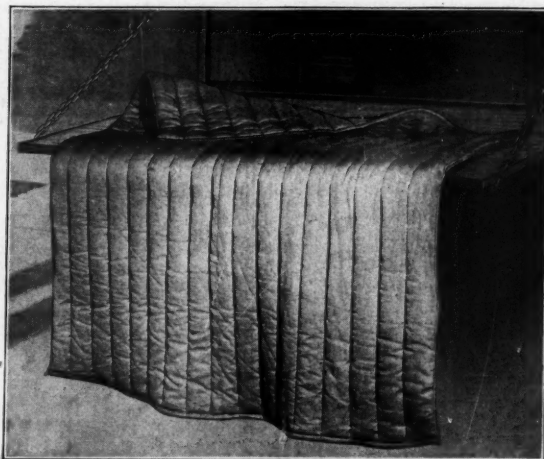
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564 Washington Blvd.

CHICAGO, ILL.

Write for Prices



Khaki Brown
Assures
Most Service

Delivery
Insurance at
Lowest Cost

We Will Ship Today

MAISH QUALITY WAGON PADS

**Put Them in Your Trucks and Wagons Immediately—
You Need Them for Careful Handling of
Your Spring Deliveries**

Are you fully prepared for the rush of Spring business? Take no chances of dissatisfying customers with goods marred after they leave your floors in perfect condition. Avoid breakage, scratching and rubbing by protecting your wares against rough handling and jolts during delivery on wagons and trucks.

Maish Quality Wagon Pads are soft and smooth, yet wonderfully substantial and wear-resisting. We are using our new heavier grade of Khaki Brown covering for maximum service to you.

The filling in Maish Quality Wagon Pads is an extra thick one-piece layer of cotton (no shoddy). Quilting in close rows of stitching with heavy carpet thread. Edges are bound by our own special process, protecting every seam and making ripping impossible.

We ship Maish Quality Wagon Pads with the definite understanding that if you are not convinced of their superiority you may return them at our expense.

The prices quoted are for standard sizes ready for immediate delivery, limited strictly to stock on hand and subject to change without notice. We ship on the day we get your letter or wire.

Prices F. O. B. Cincinnati:

No. 10 Cut Size, 36x72.....	Each \$2.25
No. 20 Cut Size, 54x72.....	Each \$3.15
No. 30 Cut Size, 72x80.....	Each \$4.40

The Chas. A. Maish Co.

Makers of the world-famous Maish Comforts.

Cincinnati, O.

1129 Bank Street

WALKER ELECTRIC TRUCKS



A Walker in the service of the Manhattan Storage and Warehouse Co.

The important factors in making an investment for motor trucks are: *Economy, life, design, dependability and satisfaction* coupled with the *reliability and permanency* of its manufacturer.

Walker Electrics fill these requirements and *prove the best investment* because:

ECONOMY—Prominent Users of both Walker Electric and gasoline trucks report their gas trucks cost 50 to 100 per cent more than their Walkers to do the same work.

LIFE—Walker Chassis are of the highest quality throughout and have a *profitable life of 10 to 20 years!*

DESIGN—*The Gasoline truck power plant has a thousand more parts than the Walker!* The Walker Balance Drive delivers at least 95% of the power direct to the tire rims.

DEPENDABILITY—Walkers operate most days per year—in fact need only be out of service while being repainted.

SATISFACTION—About 80 per cent of Walker orders are "repeat orders" from satisfied users.

RELIABILITY—The Walker Vehicle Company is the largest manufacturer of Electric Road Trucks and Tractors.

PERMANENCY—The Company was established in 1903 and is a pioneer in the motor truck field, and is established on a broad, permanent basis.

Walker Electrics are used *profitably* in most industries
Ask any Walker User, Dealer or Branch

WALKER VEHICLE COMPANY

America's Largest Manufacturer of Electric Road Trucks and Tractors

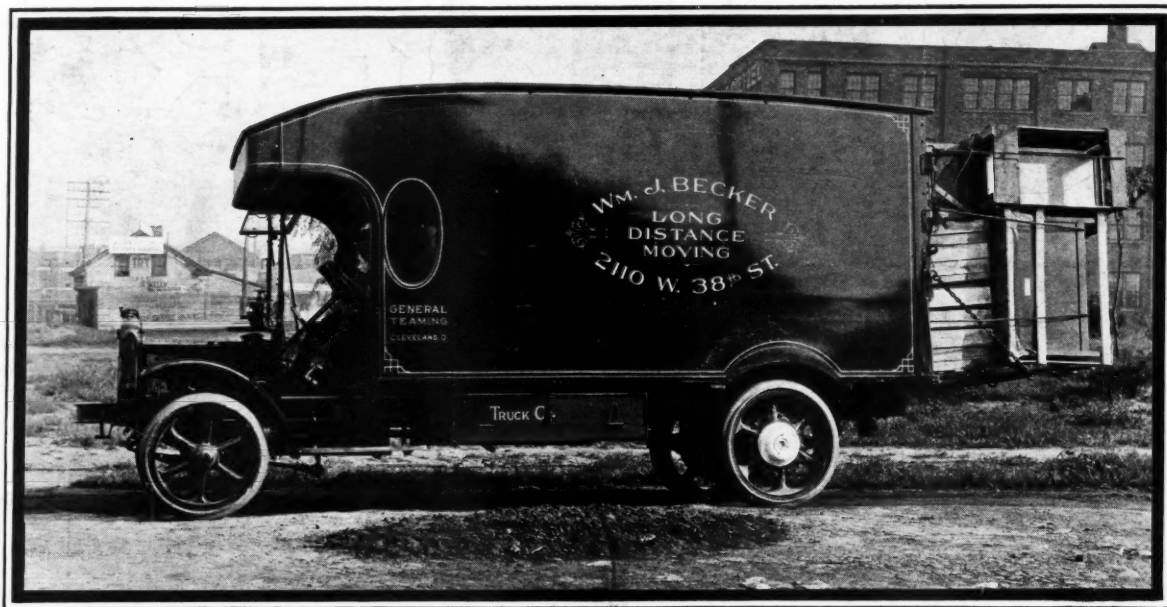
New York

CHICAGO

Boston



LOWEST-TRUCKING-COST



Leadership

THE steady, substantial growth of White output year by year is a constant proof of the unequalled *performance* of White Trucks. Each year White output leads the industry in number and value of high grade trucks produced.

Everywhere White Trucks are known for their high earning power, for their ability to do *the most work for the least money*. That is the test of truck merit and the firm foundation of White leadership.

THE WHITE COMPANY
CLEVELAND

White Trucks